U.K. Companies Act Annual Report
December 31, 2022

Registered Number 8379990

Registered Office
Liberty Global plc
Griffin House, 161 Hammersmith Rd, London
W6 8BS
United Kingdom

LIBERTY GLOBAL PLC

2022 U.K. COMPANIES ACT ANNUAL REPORT

TABLE OF CONTENTS

	Page Number
Group Strategic Report	1
Group Directors' Report	55
Statement of Directors' Responsibilities in Respect of the 2022 U.K. Companies Act Annual Report	66
Consolidated Financial Statements:	
Consolidated Statements of Financial Position	74
Consolidated Statements of Profit or Loss	76
Consolidated Statements of Comprehensive Income or Loss	77
Consolidated Statements of Changes in Equity	78
Consolidated Statements of Cash Flows	80
Notes to Consolidated Financial Statements	83
Parent Company Only Financial Statements and Footnotes	170
Appendix A-1 - Proxy Statement for the 2023 Annual General Meeting of Shareholders of Liberty Global plc, including the Liberty Global plc U.K. Statutory Directors' Remuneration Report as Appendix A thereto *	A-1

* The appendix included in the version of this U.K. Companies Act Annual Report that was filed with Companies House. Liberty Global plc's Proxy Statement for the 2023 Annual General Meeting of Shareholders has also been filed with the U.S. Securities and Exchange Commission and a copy can be obtained, without charge, from the U.S. Securities and Exchange Commission's website at www.sec.gov or from our website at www.libertyglobal.com.

GROUP STRATEGIC REPORT

The following discussion and analysis, which should be read in conjunction with the 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, 2022 and 2021.
- *Liquidity and Capital Resources.* This section provides an analysis of our corporate and subsidiary liquidity and consolidated statements of cash flows.
- *Critical Accounting Policies, Judgments and Estimates.* This section discusses those material accounting policies that involve uncertainties and require significant judgment in their application.
- *Quantitative and Qualitative Disclosures about Market Risk.* This section provides discussion and analysis of the foreign currency, interest rate and other market risk that our company faces.
- *Risk Factors.* This section provides discussion and analysis of risks the company faces, including competition, technology, operating in overseas markets, financial and other risks.

Certain of the capitalized terms used throughout this annual report are defined in the notes to the consolidated financial statements for year ended December 31, 2022 included herein (the **Consolidated Financial Statements**). In the following text, the terms "we," "our," "our company" and "us" may refer, as the context requires, to Liberty Global or collectively to Liberty Global and its subsidiaries.

Unless otherwise indicated, convenience translations into U.S. dollars are calculated, and operational data is presented, as of December 31, 2022.

Overview

General

Liberty Global is a public limited company organized under the laws of England and Wales.

We are an international provider of broadband internet, video, fixed-line telephony and mobile communications services to residential customers and businesses in Europe. Our operations comprise businesses that provide residential and B2B communications services in (i) Switzerland and Slovakia through UPC Holding, (ii) Belgium through Telenet and (iii) Ireland through VM Ireland. In addition, we own 50% noncontrolling interests in (a) the VMO2 JV, which provides residential and B2B communications services in the U.K., and (b) the VodafoneZiggo JV, which provides residential and B2B communications services in the Netherlands.

Through March 31, 2022, we provided residential and B2B communications services in Poland through UPC Holding. On April 1, 2022, we completed the sale of our operations in Poland. Accordingly, our operations in Poland are reflected as discontinued operations for all applicable periods. In the following discussion and analysis, the operating statistics, results of operations, cash flows and financial condition that we present and discuss are those of our continuing operations, unless otherwise indicated. For additional information regarding the sale of UPC Poland, including with respect to our use of proceeds, see note 6 to the Consolidated Financial Statements.

Through May 31, 2021, our consolidated operations also provided residential and B2B communications services in the U.K. through Virgin Media. On June 1, 2021, we contributed the U.K. JV Entities to the VMO2 JV and began accounting for our 50% interest in the VMO2 JV as an equity method investment. For additional information, see note 6 to the Consolidated Financial Statements.

Operations

Our company delivers market-leading products through next-generation networks that connect our customers to broadband internet, video, fixed-line telephony and mobile services. At December 31, 2022, our continuing operations owned and operated networks that passed 7,553,400 homes and served 4,083,200 fixed-line customers and 5,850,300 mobile subscribers.

Intelligent WiFi and Internet Services

Connectivity is a critical building block for vibrant communities. As highlighted by the COVID-19 pandemic, all aspects of society, including families, businesses, education and healthcare, to name a few, rely heavily on connectivity and the digital services that depend on it. To meet our customers' expectations of seamless connectivity, we are developing a fully digital, cloud-based connectivity ecosystem that we call "**ONE Connect**," built on top of our fiber-rich fixed broadband network and recently expanded mobile network. ONE Connect is orchestrated by a fully cloud-based digital journey, enabling fast and flexible introduction of new hardware and services, as well as cloud to cloud open API integration, simplifying the on-boarding of new services and devices. The devices used within our ONE Connect ecosystem are connected and protected through our security gateway and VPN, both at home and on the go. At home, our customers can benefit from the gigabit speeds enabled by our "**Connect Box**" (described below), as well as "**Intelligent WiFi**", which has optimization functionalities, such as the ability to adapt to the number of people and devices online at any given time in order to improve and extend wireless connectivity reach and speeds. We have completed the rollout of our award-winning Intelligent WiFi across all our markets. In addition, we introduced our first "**Smart Home**" bundles in select markets, enabling those customers to take their smart home ambitions to the next level, including enhanced entertainment, home automation and home security. Finally, our "**Connect App**" is the digital touchpoint that allows customers to access and manage all of our services.

Our Connect Box is a next generation Intelligent 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. This gateway can be self-installed and allows customers to customize their home WiFi service. Our latest versions of the gigabit Connect Box are based on DOCSIS 3.1 technology and WiFi 6, providing even better in-home WiFi service. Our new DOCSIS 3.1 Connect Box runs our "**One Firmware**" stack, a middleware software system based on the Reference Design Kit for Broadband (**RDK-B**). RDK-B is an open source initiative with wide participation from operators, device manufacturers and silicon vendors that standardizes core functions used in broadband devices, set-top boxes and internet of things (**IoT**) solutions. We have extended the One Firmware stack to support our ONE Connect ecosystem. One Firmware runs on system-on-a-chip (**SOC**) technology from multiple vendors and can run on any SOC that is RDK-B compliant, enabling greater speed and agility for on-boarding of new CPE platforms and ecosystem features, allowing us to build once and port to many. During 2022, we continued the roll out of One Firmware to our legacy DOCSIS 3.0 WiFi 5 GW and our next generation DOCSIS 3.1 WiFi 6 GW. In addition, we completed the porting activity of One Firmware to our new XGSPON and ethernet WiFi 6 gateways. To support the adoption of fiber-to-the-home, cabinet, building or node networks (fiber-to-the-home/-cabinet/-building/-node is referred to herein as **FTTx**) access in both on-net and off-net scenarios, we plan to add XGS-PON (an updated standard for passive optical networks that supports higher-speed 10 Gbps symmetrical data transfers) and Ethernet-based Connect Boxes with WiFi 6, providing speeds up to 10 Gbps that run our One Firmware and support our ONE Connect ecosystem. Our Connect Box is available in all our markets, and during 2022, approximately 12 million of our customers have a Connect Box. In addition to our core markets, we distribute our Connect Box to other markets in Europe, Latin America and the Caribbean. Robust wireless connectivity is increasingly important with our customers spending more and more time using bandwidth-heavy services on multiple devices. We also offer our Connect App that, among other things, allows our customers to optimize their WiFi coverage and manage their connected devices. In addition, we provide Intelligent WiFi mesh boosters, which increase speed, reliability and coverage by adapting to the environment at home.

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 markets. 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 up to gigabit speeds that is now available across our entire European footprint. The speed of service depends on the customer location and their service selected.

By leveraging our existing fiber-rich broadband networks, we are in a position to deliver gigabit services by deploying the next generation DOCSIS 3.1 technology. DOCSIS 3.1 technology is an international standard that defines the requirements for data transmission over a cable system. Not only does DOCSIS 3.1 technology improve our internet speeds and reliability, it allows for efficient network growth. Currently, our ultra-high-speed internet service is based primarily on DOCSIS 3.1 technology, and we offer this technology in all of our markets. As of the end of 2022, both the VMO2 JV's and the VodafoneZiggo JV's broadband networks were capable of offering every customer of the VMO2 JV and the VodafoneZiggo JV gigabit internet speeds.

We offer value-added broadband services in certain of our markets for an incremental charge. These services include Intelligent WiFi features, security (e.g., anti-virus, anti-spyware, firewall and spam protection), Smart Home services, and online storage solutions and web spaces. 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.

Mobile Services

Mobile services are another key building block for us to provide customers with seamless connectivity. Telenet, the VMO2 JV, the VodafoneZiggo JV and Sunrise offer mobile services as mobile network providers, and VM Ireland offers mobile services as an MVNO over a third-party network through Three (Hutchison).

Pursuant to VM Ireland's agreement with Three (Hutchison) to provide mobile services as an MVNO, Three (Hutchison) leases a third-party's radio access network and owns the core network, including switching, backbone and interconnections. VM Ireland's MVNO arrangement with Three (Hutchison) permits VM Ireland to offer its customers mobile services without needing to build and operate a cellular radio tower network.

In each of our markets, we offer a range of mobile related services. The majority of subscribers take a post-paid service plan, which has an agreed monthly fee for a set duration (typically 1 to 2 years). The monthly fee will vary depending on the country and service package selected. Service packages can have different levels of data allowances, voice minutes and network speed, as well as differing other aspects, such as roaming charges and contract duration. Post-paid services are also offered as a bundle with fixed services, and by taking a "converged" offering, customers typically receive some benefits such as lower total cost or additional features. Post-paid services are offered to both business and retail consumers. In addition, we offer pre-paid mobile services, where the customers pay in advance for a pre-determined amount of airtime or data and which generally have no minimum contract term. In countries where we operate as a mobile service operator, we also offer a number of MVNOs, where other mobile providers use our mobile network for their mobile offering.

Video Services

Our video service is, and continues to be, one of the foundations of our product offerings in our markets. Our cable operations offer 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 receive digital video channels (including a growing number of high definition (**HD**) and ultra-high definition 4K resolution (**4K**) channels) and several digital and analog radio channels, as well as an electronic programming guide. We tailor our video services in each country of operation based on programming preferences, culture, demographics and local regulatory requirements.

We also offer a variety of premium channel packages to meet the 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 and 4K channels. Our channel offerings include general entertainment, sports, movies, series, documentaries, lifestyles, news, adult, children and ethnic and foreign channels.

Discounts to our monthly service fees are available to any subscriber who selects a bundle of two or more of our services (bundled services): video, internet, fixed-line telephony and, in most of our markets, mobile services. Bundled services consist of double-play for two services, triple-play for three services and, where available, quad-play for four services.

To meet customer demands, we have enhanced our video services with additional relevant content services and features, which increases viewing satisfaction and addresses individual user needs. Our latest next generation product suite is called "**Horizon 4**", a cloud-based, multi-screen entertainment platform that combines linear television (including recording and replay features), premium video-on-demand ("**VoD**") offerings, an increasing amount of integrated premium global and local video applications and mobile viewing into one entertainment experience. Horizon 4 comes with a state-of-the-art personal user interface that is intuitively easy to navigate. Content recommendations and favorite channel settings can be customized to individual user profiles. Video playback control, navigation shortcuts and content searches can all be conducted via a voice control button on the remote control, a feature highly appreciated by our customers. Horizon 4 is available in all of our markets on the latest set top boxes and is capable of delivering 4K video content, including high dynamic range. The platform also features a 'Personal Home' page that automatically aggregates content, both linear and VoD, in a streamlined user interface, based on the user's viewing habits. It has achieved significant positive customer feedback, manifesting in high product net promoter score figures. Horizon 4 is marketed under the name "Telenet TV-Box" in Belgium "Sunrise TV" in Switzerland, "Virgin TV360" in the U.K., through the VMO2 JV, and Ireland and "MediaBox Next" in the Netherlands through the VodafoneZiggo JV.

In the U.K., the forerunner product of Horizon 4 is based on the TiVo platform and was developed under a strategic partnership agreement with TiVo Inc. The TiVo platform is deployed on a basic set-top box as well as the Virgin Media V6 box. Similar to Horizon 4, the Virgin Media V6 box combines 4K video, including high dynamic range, with improved streaming functionalities and more processing power. The Virgin Media V6 box allows customers to record six channels simultaneously while watching a seventh channel. Customers can also start watching a program on one television and pick up where they left off on other boxes in another room or through an app on their smart phones and tablets. Over 50% of the VMO2 JV's customers have the Virgin Media V6 box. Similar to the hardware already deployed via the VodafoneZiggo JV, over time these V6 boxes will be flashed with the latest Horizon 4 software, bringing our latest and most successful television and entertainment experience to the VMO2 JV's customers without the need to exchange the installed hardware. Approximately 25% of the VMO2 JV's customers are on the Horizon 4 platform.

In the summer of 2020, we launched our first IP-only streaming device in our former Polish operations, which runs the full Horizon 4 product suite and features a small puck-like form factor that can be tucked away behind a TV screen. This all-IP mini 4K capable TV box has extremely low power consumption, and its casing is made from recycled plastic, proudly winning us the Digital TV Europe's Video Tech Innovation Sustainability Award in December 2020 as well as the Red Dot Product Design Award in 2021. We have also launched this all-IP 4K capable TV box in Switzerland, the Netherlands and the U.K. We intend to continue rolling out this product to our other markets in the coming years.

Underpinned by this new IP-only streaming device, we launched our first subscription VoD-focused proposition in the U.K. called 'Stream'. In addition to a slimmer channel lineup, this new package allows customers to pick and choose their favorite entertainment packages each month (e.g., Netflix, Disney+ and Prime Video) and get a 10% credit back for each subscription they add via our platform. By bundling their over the top (**OTT**) subscriptions together, customers also have an easy-to-see overview of what they are paying for and can manage them in a straightforward way, allowing for added flexibility as their viewing habits change.

One of our key video services is "Replay TV". Through Replay TV, the last seven days of content (subject to rights related to blackouts) is made available via the electronic programming guide (**EPG**) for on demand viewing. Customers can simply open the EPG, scroll back and replay linear programming instantly. This same technical solution also allows our customers to replay a television program from the start even while the live broadcast is in progress. Additionally, customers have the option of recording television programs in the cloud (or onto the hard disk drive in the set top box in the U.K., through the VMO2 JV, and in Ireland, through VM Ireland). Replay TV is one of the most used and appreciated features on our platforms.

In most of our markets, we offer transactional VoD giving subscribers access to thousands of movies and television series. In several of our markets, our subscription VoD service is included in certain of our video offerings. This service is tailored to the specific market based on available content, consumer preferences and competitive offers, and it includes various programming, such as music, kids, documentaries, adult, sports and TV series. We continue to develop our VoD services to provide a growing collection of programming from local and international suppliers, including, among others, Disney/Fox, NBC/Universal, CBS/Paramount, Warner Bros., Discovery and Sony. In addition, in all of our markets we offer global premium OTT services such as Netflix, YouTube and Amazon Prime Video, and we also offer local OTT services via a large portion of our set-top boxes. These types of paid subscription services can be bundled into customers' packages like in the Stream proposition or, in many cases, added directly to customers' bills, offering them further convenience.

Most of this content is also available via our online mobile app, "**Horizon Go**", which is available on mobile devices (iOS and Android) and, in some markets as well, via Amazon Fire TV, Apple TV and Android TV devices. Thanks to the 360 integration of Horizon 4 across multiple screens, customers can pause a program, series or movie and seamlessly continue watching from where they left off on another device, whether on a television, tablet, smart phone or laptop. Additionally, Horizon Go enables customers to remotely schedule the recording of a television program on their Horizon 4 box at home.

Telephony Services

Multi-feature telephony services are available through voice-over-internet-protocol (**VoIP**) technology in most of our broadband communication markets. In the U.K., the VMO2 JV also provides traditional circuit-switched telephony services. 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 several of our markets on a standalone basis and in all of our markets 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.

Multiple Dwelling Units and Partner Networks

In July of 2022, Telenet entered into an agreement with Fluvius in which Telenet and Fluvius agreed to create NetCo that will operate the network infrastructure assets of both companies in the region. NetCo expects to further roll-out and operate a hybrid fiber coaxial (**HFC**) and fiber-to-the-home (**FTTH**) network within Telenet's current geographic footprint. Following the closing of this transaction, Telenet will become a wholesale access client of NetCo. This transaction is subject to regulatory approval by the European Commission, which is expected to be received mid-2023. Upon closing of the transaction with Fluvius, the long-term lease that Telenet currently has with Fluvius will terminate.

Pursuant to an agreement executed on June 28, 2008 (the **2008 PICs Agreement**) with four associations of municipalities in Belgium (the pure intercommunales or **PICs**), Telenet leases the PICs broadband communications network and, accordingly, makes its services available to all of the homes passed by the cable network owned by the PICs. Telenet has a direct customer relationship with the video subscribers on the PICs network. Pursuant to the 2008 PICs Agreement, Telenet has full rights to use substantially all of the PICs network under a long-term lease. Unless extended, the 2008 PICs Agreement will expire on September 23, 2046, and cannot be terminated earlier (except in the case of non-payment or bankruptcy of Telenet). For additional information on the 2008 PICs Agreement, see note 21 to the Consolidated Financial Statements.

For over 70% of Sunrise's basic video subscribers, Sunrise maintains billing relationships with landlords or housing associations and provides basic video service to the tenants. The landlord or housing association administers the billing for the basic video service with their tenants and manages service terminations for their rental units. When tenants select triple-play bundles with or without mobile service from Sunrise, they then migrate to a direct billing relationship with us.

Sunrise offers broadband internet, enhanced video and telephony services directly to the video cable subscribers of those partner networks that enter into service operating contracts with Sunrise. Sunrise has the direct customer billing relationship with these subscribers. By permitting Sunrise to offer some or all of its broadband internet, video and telephony products directly to those partner network subscribers, Sunrise's service operating contracts have expanded the addressable markets for Sunrise's digital products. In exchange for the right to provide digital products directly to the partner network subscribers, Sunrise pays to the partner network a share of the revenue generated from those subscribers. Sunrise also provides network maintenance services and engineering and construction services to its partner networks.

Business Services

In addition to our residential services, we offer business services in all of our operations. For business and public sector organizations, we provide a complete 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 (generally up to five employees), small business and medium and large enterprises. We also provide business services on a wholesale basis to other operators.

Our business services are designed to meet the specific demands of our business customers with a wide range of services, including increased data transmission speeds and virtual private networks. These services fall into five broad categories:

- data services for fixed internet access, with a 4G connectivity backup, IP virtual private networks based on SDWAN solutions, and high-capacity point-to-point services, including dedicated cloud connections;
- cloud collaboration VoIP solutions and circuit switch telephony, unified communications and conferencing options;
- wireless services for mobile voice and data, as well as managed WiFi networks;
- video programming packages and select channel lineups for targeted industries or full programming packages for SOHO customers; and
- value added services, including managed security systems, cloud enabled business applications, storage and web hosting.

Our intermediate to long-term strategy is to enhance our capabilities and offerings in the business sector so we become a preferred provider in the business market. To execute this strategy, customer experience and strategic marketing play a key role.

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 for a period of at least one year.

Investments

VMO2 JV. Liberty Global owns 50% of the VMO2 JV, an integrated communications provider of broadband internet, video, fixed-line telephony, mobile and converged services to residential and business customers in the U.K. As part of the U.K. JV Transaction, Liberty Global entered into the U.K. JV Shareholders Agreement with Telefónica, that previously owned O2 in the U.K., which sets forth the corporate governance of the VMO2 JV, as well as, among other things, its dividend policy and non-competition provisions. The U.K. JV Shareholders Agreement mandates that the VMO2 JV distribute to Liberty Global and Telefónica on a quarterly basis a pro rata dividend equaling (unless agreed otherwise) all unrestricted cash, subject to certain minimum thresholds and financing arrangements. Subject to certain exceptions, Liberty Global may not transfer its ownership interest in the VMO2 JV without consent from Telefónica. Additional information on the U.K. JV Shareholders Agreement can be found in note 8 to the Consolidated Financial Statements.

The VMO2 JV offers gigabit internet across its entire fixed network footprint, reaching over 16.1 million homes, combined with a mobile network that offers 99% indoor and outdoor population coverage on 4G, as well as 5G services in over 1,600 towns and cities across the U.K. The VMO2 JV had over 13 million RGUs as of December 31, 2022, comprised of approximately 5.7 million broadband internet subscribers. The VMO2 JV does not report video or telephony subscribers on an individualized basis, although such subscribers are included in its total RGU figure. In addition, the VMO2 JV had approximately 33.8 million mobile subscribers and is the U.K.'s leading mobile operator in terms of connections, with 44.7 million connections across its mobile, IoT and wholesale services.

In addition to gigabit broadband, the VMO2 JV provides fixed-line TV and telephony services. In 2022, the VMO2 JV launched a new flexible entertainment service called 'Stream,' which combines the customer's subscription packages such as Netflix, Disney+, and Amazon Prime, as well as the free TV channels under one system while also allowing the customer to transform their TV into a voice-activated unit. The VMO2 JV's TV customers continue to have access to the Horizon 4 minibox and its functionalities (marketed as 'Virgin TV 360', including 'Catch up', 'Startover' and pause live TV, the Virgin TV Go app and VoD, along with access to a range of premium subscription-based and pay per view services.

The VMO2 JV provides a wide range of mobile telecommunications and associated value-added products and services, such as voice, messaging and data services, handsets and hardware (e.g., wearables and handsets), stand-alone mobile devices and other accessories.

The VMO2 JV's consumer convergence offering is led by its "**Volt**" proposition, offering new and existing customers that take Virgin Media broadband and eligible O2 Pay Monthly plans an upgrade to the next fixed broadband speed tier, increased mobile data and more value, including a WiFi guarantee. As of December 31, 2022, Volt had surpassed 1.3 million customers, while fixed-mobile convergence penetration stood at approximately 45%.

The VMO2 JV also provides business and wholesale products and services to large enterprises, public sector entities and small and medium business customers as well as wholesale and MVNO partners.

nexfibre JV. We own a 25% interest in the nexfibre JV, a newly formed joint venture in the U.K. that intends to construct and operate a wholesale FTTH broadband network of 5-7 million premises that does not overlap with the VMO2 JV's existing network. Telefónica owns 25% of the nexfibre JV, and InfraVia Capital Partners (**InfraVia**) owns the remaining 50%. The VMO2 JV will act as the anchor client for the new nexfibre JV's fiber network. The VMO2 JV also entered into a master services agreement with the nexfibre JV to provide access to the VMO2 JV's expertise in the telecommunications business. In combination with the VMO2 JV's existing network and planned FTTH upgrades, the VMO2 JV and the nexfibre JV networks are expected to expand gigabit coverage to approximately 80% of the U.K. once completed.

In connection with the formation of the nexfibre JV, we entered into shareholders agreements with Telefónica and InfraVia, providing for the governance of the nexfibre JV, including, among other things, its dividend policy and non-compete provisions. It also provides for restrictions on transfer of interests in the nexfibre JV and exit arrangements. Under the dividend policy, the nexfibre JV is required to distribute all unrestricted cash to Telefónica, InfraVia and us, subject to minimum cash requirements and financing arrangements.

VodafoneZiggo JV. We own a 50% interest in the VodafoneZiggo JV, which is a leading Dutch company that provides fixed, mobile and integrated communication and entertainment services to consumers and businesses in the Netherlands. In connection with the formation of the VodafoneZiggo JV, we entered into a shareholders agreement with Vodafone providing for the governance of the VodafoneZiggo JV, including, among other things, its dividend policy and non-compete provisions. It also provides for restrictions on the transfer of interests in the VodafoneZiggo JV and exit arrangements. Under the dividend policy, the VodafoneZiggo JV is required to distribute all unrestricted cash to Vodafone and us, subject to minimum cash requirements and financing arrangements. We also entered into a framework agreement with the VodafoneZiggo JV to provide access to each partner's expertise in the telecommunications business. For additional information on the above agreements, see note 8 to the Consolidated Financial Statements.

The fiber-rich broadband network of the VodafoneZiggo JV passes approximately 7.4 million homes. In 2022, the VodafoneZiggo JV began offering gigabit internet speeds for residential and business customers across its entire footprint. The VodafoneZiggo JV also offers nationwide 4G and 5G mobile coverage. At December 31, 2022, the VodafoneZiggo JV had 8.8 million RGUs, of which 3.7 million were video, 3.3 million were broadband internet and 1.8 million were fixed-line telephony. In addition, the VodafoneZiggo JV had 5.5 million mobile customers. Besides its residential services, the VodafoneZiggo JV offers extensive business services throughout the Netherlands.

The VodafoneZiggo JV's customers continue to have access to the Horizon 4 minibox and its functionalities (marketed as "Ziggo TV"), including Replay TV, the Ziggo Go app, pause live TV and VoD, gigabit internet speeds and an extensive WiFi community network. The VodafoneZiggo JV also has its own sports channel, Ziggo Sport, and offers some exclusive programming. The VodafoneZiggo JV's customers also have access to Vodafone's nationwide 4G (referred to herein as **LTE**) and 5G wireless services, under either a prepaid or postpaid service plan. The VodafoneZiggo JV provides its mobile services under various licenses that have a weighted average useful life of approximately 18 years as of December 31, 2022. With its mobile services, the VodafoneZiggo JV is able to offer quad-play bundles and converged services to its residential and business customers.

Strategy and Management Focus

From a strategic perspective, we are seeking to build national fixed-mobile converged communications businesses that have strong prospects for future growth. As discussed further under *Liquidity and Capital Resources — Capitalization* below, we also seek to maintain our debt at levels that provide for attractive equity returns without assuming undue risk.

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. As we use the term, organic growth excludes foreign currency translation effects (**FX**) and the estimated impact of acquisitions and dispositions. While we seek to increase our customer base, we also seek to maximize the average revenue we receive from each household by increasing the penetration of our broadband internet, video, fixed-line telephony and mobile services with existing customers through product bundling and upselling.

Employees

The details of our full-time equivalent directors, senior managers and employees by gender as of December 31, 2022, are as follows:

Directors (a):	
Male	9
Female	2
	11
Senior managers (a):	
Male	4
Employees:	
Male	6,600
Female	3,500
	10,100

(a) Employees are included in each category, if applicable. Our senior manager group is comprised of our chief executive officer and our executive vice presidents.

Impact of COVID-19

The global COVID-19 pandemic continues to impact the economies of the countries in which we operate. However, during 2022, the impact on our company continued to be relatively minimal as demand for our products and services remained strong. It is not currently possible to estimate the duration and severity of the COVID-19 pandemic or the adverse economic impact resulting from the preventative measures taken to contain or mitigate its outbreak, therefore no assurance can be given that an extended period of global economic disruption would not have a material adverse impact on our business, financial condition and results of operations in future periods.

Competition and Other External Factors

We are experiencing competition in all of the markets in which we or our affiliates operate. This competition, together with macroeconomic and regulatory factors, has adversely impacted our revenue, number of customers and/or average monthly subscription revenue per fixed-line customer or mobile subscriber, as applicable (**ARPU**). For additional information regarding the revenue impact of changes in the fixed-line customers and ARPU of our consolidated reportable segments, see *Discussion and Analysis of our Reportable Segments* below.

For information regarding certain other regulatory developments that could adversely impact our results of operations in future periods, see *Legal and Regulatory Proceedings and Other Contingencies* in note 21 to the Consolidated Financial Statements.

Section 172(1) Statement

This statement is intended to disclose how our Directors have approached and met their responsibilities under s172 Companies Act 2006 and has been prepared in response to the obligations as set out in the Companies (Miscellaneous Reporting) Regulations 2018.

Our Board of Directors oversees the Company's business with the goal of enhancing the long-term value of the Company for the benefit of its shareholders. Our Board of Directors is elected by our shareholders to oversee the management of the Company and to help assure that the interests of our shareholders are served.

As we believe the highest standards of corporate governance are essential to our business integrity and performance, our Board of Directors has developed a number of specific expectations of Directors, which can be found in our Corporate Governance Guidelines and Board Committee Charters, to help ensure that each Director considers (i) long-term consequences of decisions, (ii) our employees' interests, (iii) business relationships with suppliers and customers, (iv) the impact of our operations on the environment and communities in which we operate and (v) the need to act fairly between shareholders. Consideration of these factors and other relevant matters is embedded into all Board decision-making, strategy development and risk assessment throughout the year. In addition, to support a high standard of corporate governance in every area of our operations, we have established (i) a Code of Ethics for our chief executive and senior financial officers and (ii) a Code of Conduct that applies to every Director, officer and employee of our Company. Further details are available at *www.libertyglobal.com/about/corporate-governance*.

The level of engagement of our Board of Directors is critical in our company's successful investment in the infrastructure and platforms that empower our customers to make the most of the digital revolution and connect to the entertainment, experiences and people they love. We believe that our scale and synergies with our partners help bring the best connectivity and entertainment to our customers and, during 2022, our Board of Directors provided thoughtful guidance to ensure that we enhanced and expanded our networks wisely, investing with purpose in the technology, talent and territories with the most potential. For example, during 2022 and 2021, we continued to push the boundaries of our fiber-rich HFC networks by accelerating our gigabit broadband rollouts to more European homes and businesses. As a result, millions of our customers currently have access to 1 gigabit download speeds, far surpassing what our competitors are able to offer across the vast majority of our footprint. As we deliver for our customers, we build value for our shareholders and our employees, rewarding those who have a long-term commitment to our business.

Customers/Partnerships. During 2022, we continued to invest billions in the U.K. and Europe to drive the gigabit broadband revolution. With our superfast next-generation broadband networks, intuitive WiFi, great in-and-out-of-home connectivity products, cutting-edge TV platforms and brilliant TV content, we are committed to enabling our customers to seamlessly live their fluid and fast-paced lives to the fullest, providing our customers the ability to stay connected anytime and anywhere. During 2022, in particular, we were committed to helping individuals and businesses adopt digital technologies so they could continue to thrive during the COVID-19 pandemic and emerge stronger from the pandemic than they were before.

We believe our relationships with our partners help us deliver unique products and services to support this commitment to our customers, and the continued strategic involvement by our Board of Directors in these decisions to help foster these relationships and consider their potential long-term impact is critical to our success.

Responsibility - Community, Environment & Suppliers. We believe in responsible connectivity, meaning that while we continue to invest in our network and deliver outstanding service, we ensure that as the network and bandwidth we provide grows, our impact on the planet does not. We are also committed to protecting customer privacy, maintaining data security, keeping children safe online and responsibly managing our supply chain while we invest to make our products and services more accessible.

- *Responsible Connectivity*. At Liberty Global, we understand the importance of doing business in a responsible and sustainable way. Because of that, we are focused on managing the impact of our business on the environment and society, as well as developing strategies to ensure this approach is ingrained in every aspect of our organization. As we continue to expand our network reach and speed capabilities, we're constantly seeking ways to minimize our environmental impact, such as using eco-friendly packaging and refurbishing and reusing equipment whenever possible. Examples of our commitment to responsible connectivity can be found in our *Director's Report* included later in this report.

- *Privacy, Data Security & Safety.* As a provider of internet, telephone and television services, our customers' digital lives are entrusted to us, which comes with an obligation to keep personal data safe. We take our customers' trust in us

seriously to protect the confidentiality and integrity of their data. In addition, we aim to make the digital world safe for everyone, especially our children, so we ensure our products and services offer parental control features that help parents keep children safe online. Our internet safety toolkits guide parents and teachers alike on how to empower young people of all ages to protect themselves as they explore the online world.

- *Responsible procurement*. We're committed to building better relationships with our suppliers not only to mitigate risks but to also help identify opportunities. This includes better understanding the way we (i) source our electronic components and network equipment and (ii) distribute these products to our customers with the aim of improving sustainability. Further details are available at *www.libertyglobal.com/impact/trusted-products*.

We are actively engaged in significant public policy debates throughout our markets. We are committed to engaging regulators and government officials in an ongoing, constructive dialogue in order to position the company for future growth and provide the best possible service to our customers. In particular, we strive to make meaningful contributions to advance the leading issues in the public policy community where the governance of modern communications networks is continually evolving. In almost all of our operations, we have specialist public policy and government affairs resources which are firmly rooted in the local community.

People. Our deep-rooted family heritage and entrepreneurial energy have shaped our unique culture and incredible growth journey. We understand the importance of engaging with, and understanding the perspectives of, our workforce. Our Board of Directors has supported our management in the areas of identification and development of talent, employee engagement and building positive cultures across all our operations and has direct interactions at board meetings with key people in the business on a variety of people-related and other topics. Our unique culture is highlighted in the following four principles:

- We are agile - We strive to embrace change, evolve, transform and adapt quickly;
- We are limitless - We're bold and set new standards in all that we do;
- We are straight up - We are authentic, transparent and do the right thing for the customer and or organization; and
- We are united - We collaborate and embrace our differences to achieve our goals.

At Liberty Global, we also invest in upcoming talent through our graduate programs. Through department rotations, graduates benefit from accelerated development covering core business skills and technical capabilities suited to our dynamic, fast-paced and unique environment. We're committed to developing talented people through our tailored development programs to cultivate a rewarding career with us and beyond.

Results of Operations

We have completed a number of transactions that impact the comparability of our 2022 and 2021 results of operations, the most notable of which are (i) the U.K. JV Transaction on June 1, 2021, (ii) the sale of UPC Poland on April 1, 2022 and (iii) the Telenet Tower Sale on June 1, 2022. For further information regarding our acquisitions and dispositions, see notes 5 and 6, respectively, to the Consolidated Financial Statements.

In the following discussion, we quantify the estimated impact of material acquisitions (the **Acquisition Impact**) and dispositions on our operating results. The Acquisition Impact represents our estimate of the difference between the operating results of the periods under comparison that is attributable to an acquisition. In general, we base our estimate of the Acquisition Impact on an acquired entity's operating results during the first three to twelve months following the acquisition date, as adjusted to remove integration costs and any other material unusual or nonoperational items, such that changes from those operating results in subsequent periods are considered to be organic changes. Accordingly, in the following discussion, (i) organic variances attributed to an acquired entity during the first 12 months following the acquisition date represent differences between the Acquisition Impact and the actual results and (ii) the calculation of our organic change percentages includes the organic activity of an acquired entity relative to the Acquisition Impact of such entity. With respect to material dispositions, the organic changes that are discussed below reflect adjustments to exclude the historical prior-year results of any disposed entities to the extent that such entities are not included in the corresponding results for the current-year period.

Changes in foreign currency exchange rates have a significant impact on our reported operating results as all of our operating segments have functional currencies other than the U.S. dollar. Our primary exposure to FX risk during the three months ended December 31, 2022 was to the euro and Swiss franc, as 55.1% and 43.6% of our reported revenue during the period was derived from subsidiaries whose functional currencies are the euro and Swiss franc, respectively. In addition, our reported operating results are impacted by changes in the exchange rates for certain other local currencies in Europe. The

portions of the changes in the various components of our results of operations that are attributable to changes in FX are highlighted under *Discussion and Analysis of our Reportable Segments* and *Discussion and Analysis of our Consolidated Operating Results* below. For information regarding our foreign currency risks and the applicable foreign currency exchange rates in effect for the periods covered by this annual report, see *Quantitative and Qualitative Disclosures about Market Risk — Foreign Currency Risk* below.

The amounts presented and discussed below represent 100% of each of our consolidated reportable segment's results of operations. As we have the ability to control Telenet, we consolidate 100% of its revenue and expenses in our consolidated statements of profit or loss despite the fact that third parties own a significant interest. The noncontrolling owners' interests in the operating results of Telenet and other less significant majority-owned subsidiaries are reflected in net profit or loss attributable to noncontrolling interests in our consolidated statements of profit or loss. Similarly, despite only holding a 50% noncontrolling interest in both the VMO2 JV and the VodafoneZiggo JV, we present 100% of the revenue and Adjusted EBITDA of those entities in the tables below.

Discussion and Analysis of our Reportable Segments

General

All of our reportable segments derive their revenue primarily from residential and B2B communications services. For detailed information regarding the composition of our reportable segments and how we define and categorize our revenue components, as well as our definition of Adjusted EBITDA, see note 19 to the Consolidated Financial Statements. For additional information regarding the results of operations of the VMO2 JV and the VodafoneZiggo JV, refer to *Discussion and Analysis of our Consolidated Operating Results — Share of results of affiliates, net,* below.

The tables presented below in this section provide the details of the revenue and Adjusted EBITDA of our reportable segments for 2022, as compared to 2021. These tables present (i) the amounts reported for the current and comparative periods, (ii) the reported U.S. dollar change and percentage change from period to period and (iii) with respect to our consolidated reportable segments, the organic U.S. dollar change and percentage change from period to period. For our organic comparisons, which exclude the impact of FX, we assume that exchange rates remained constant at the prior-period rate during all periods presented. We also provide a table showing the Adjusted EBITDA margins of our reportable segments for 2022 and 2021 at the end of this section.

Most of our revenue is derived from jurisdictions that administer VAT or similar revenue-based taxes. 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 on to our customers. In the case of revenue-based taxes for which we are the ultimate taxpayer, we will also experience increases in our operating costs and expenses and corresponding declines in our Adjusted EBITDA and Adjusted EBITDA margins to the extent of any such tax increases.

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 networks or networks that we access through MVNO or other arrangements. 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 and, in very limited cases, we could experience retroactive changes in our interconnect revenue and/or costs. The ultimate impact of any such changes in termination rates on our Adjusted EBITDA would be dependent on the call or text messaging patterns that are subject to the changed termination rates.

We are subject to inflationary pressures with respect to certain costs and foreign currency exchange risk with respect to costs and expenses that are denominated in currencies other than the respective functional currencies of our reportable segments. 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. For additional information regarding our foreign currency exchange risks see *Quantitative and Qualitative Disclosures about Market Risk — Foreign Currency Risk* below.

Consolidated Adjusted EBITDA is a non-GAAP measure, which we believe is a meaningful measure because it represents a transparent view of our recurring operating performance that is unaffected by our capital structure and allows management to readily view operating trends from a consolidated view. Investors should view consolidated Adjusted EBITDA as a supplement to, and not a substitute for, GAAP measures of performance included in our consolidated statements of profit or loss.

The following table provides a reconciliation of profit from continuing operations to Adjusted EBITDA:

	Year ended December 31,	
	2022	2021
	in millions	
Profit from continuing operations	$ 2,473.9	$ 14,048.8
Income tax expense (benefit)	200.3	(177.2)
Other expense (income), net	(22.7)	6.0
Gain on AtlasEdge JV Transactions	—	(211.3)
Gain on U.K. JV Transaction	—	(10,841.4)
Gain on Telenet Tower Sale	(391.9)	—
Share of results of affiliates, net	(407.0)	215.8
Net finance income	(1,681.5)	(1,657.2)
Operating profit	171.1	1,383.5
Impairment, restructuring and other operating items, net	102.6	(46.6)
Depreciation and amortization	2,386.4	2,603.4
Share-based compensation expense	202.6	333.3
Adjusted EBITDA	$ 2,862.7	$ 4,273.6

Revenue of our Reportable Segments

General. While not specifically discussed in the below explanations of the changes in the revenue of our reportable segments, we are experiencing competition in all of our markets. This competition has an adverse impact on our ability to increase or maintain our total number of customers and/or our ARPU.

Variances in the subscription revenue that we receive from our customers are a function of (i) changes in the number of our fixed-line customers 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 fixed and mobile products within a segment during the period.

	Year ended December 31,		Increase (decrease)		Organic increase (decrease)	
	2022	2021	$	%	$	%
	in millions, except percentages					
Switzerland	$ 3,180.9	$ 3,321.9	$ (141.0)	(4.2)	$ (0.5)	—
Belgium	2,805.7	3,070.5	(264.8)	(8.6)	42.7	1.4
U.K. (a)	—	2,736.4	(2,736.4)	(100.0)	—	—
Ireland	494.7	550.0	(55.3)	(10.1)	5.6	1.0
Central and Other	722.4	648.7	73.7	11.4	70.0	10.8
Intersegment eliminations	(9.6)	(11.6)	2.0	N.M.	2.0	N.M.
Total	$ 7,194.1	$ 10,315.9	$ (3,121.8)	(30.3)	$ 119.8	1.6
VMO2 JV (b)	$ 12,817.8	$ 8,430.0	$ 4,387.8	52.0		
VodafoneZiggo JV	$ 4,284.6	$ 4,824.2	$ (539.6)	(11.2)		

N.M. — Not Meaningful.

(a) Represents the revenue of the U.K. JV Entities through the June 1, 2021 closing of the U.K. JV Transaction.

(b) The 2021 amount represents the revenue of the VMO2 JV for the period beginning June 1, 2021.

Switzerland. The details of the decrease in Switzerland's revenue during 2022, as compared to 2021, are set forth below:

	Subscription revenue	Non-subscription revenue	Total
		in millions	
Decrease in residential fixed subscription revenue due to change in:			
Average number of customers	$ (5.8)	$ —	$ (5.8)
ARPU	(42.3)	—	(42.3)
Decrease in residential fixed non-subscription revenue (a)	—	(13.3)	(13.3)
Total decrease in residential fixed revenue	(48.1)	(13.3)	(61.4)
Increase in residential mobile revenue (b)	29.4	19.1	48.5
Increase in B2B revenue (c)	3.4	15.2	18.6
Decrease in other revenue	—	(6.2)	(6.2)
Total organic increase (decrease)	(15.3)	14.8	(0.5)
Impact of FX	(101.3)	(39.2)	(140.5)
Total	$ (116.6)	$ (24.4)	$ (141.0)

(a) The decrease in residential fixed non-subscription revenue is primarily due to lower revenue associated with our Swiss sports channels.

(b) The increase in residential mobile subscription revenue is largely due to an increase in the average number of mobile subscribers. The increase in residential mobile non-subscription revenue is primarily attributable to an increase in revenue from handset sales.

(c) The increase in B2B non-subscription revenue is primarily due to the net effect of (i) higher revenue from wholesale services and (ii) lower revenue from telephony services.

Belgium. The details of the decrease in Belgium's revenue during 2022, as compared to 2021, are set forth below:

	Subscription revenue	Non-subscription revenue	Total
		in millions	
Decrease in residential fixed subscription revenue due to change in:			
Average number of customers	$ (16.0)	$ —	$ (16.0)
ARPU	(2.6)	—	(2.6)
Decrease in residential fixed non-subscription revenue	—	(4.2)	(4.2)
Total decrease in residential fixed revenue	(18.6)	(4.2)	(22.8)
Increase (decrease) in residential mobile revenue (a)	30.5	(41.7)	(11.2)
Increase in B2B revenue (b)	14.2	53.1	67.3
Increase in other revenue	—	9.4	9.4
Total organic increase	26.1	16.6	42.7
Impact of acquisitions	—	39.8	39.8
Impact of dispositions	—	(0.8)	(0.8)
Impact of FX	(254.6)	(91.9)	(346.5)
Total	$ (228.5)	$ (36.3)	$ (264.8)

(a) The increase in residential mobile subscription revenue is primarily due to higher ARPU. The decrease in residential mobile non-subscription revenue is primarily attributable to lower interconnect revenue.

(b) The increase in B2B subscription revenue is primarily attributable to an increase in ARPU. The increase in B2B non-subscription revenue is largely due to higher revenue from wholesale services and an increase in interconnect revenue.

For information concerning certain regulatory developments that could have an adverse impact on our revenue in Belgium, see *Legal and Regulatory Proceedings and Other Contingencies — Belgium Regulatory Developments* in note 21 to the Consolidated Financial Statements.

Ireland. The details of the decrease in Ireland's revenue during 2022, as compared to 2021, are set forth below:

	Subscription revenue	Non-subscription revenue	Total
		in millions	
Increase (decrease) in residential fixed subscription revenue due to change in:			
Average number of customers	$ (8.1)	$ —	$ (8.1)
ARPU	6.2	—	6.2
Decrease in residential fixed non-subscription revenue	—	(0.6)	(0.6)
Total decrease in residential fixed revenue	(1.9)	(0.6)	(2.5)
Increase in residential mobile revenue	3.7	1.1	4.8
Increase in B2B revenue	1.1	1.1	2.2
Increase in other revenue	—	1.1	1.1
Total organic increase	2.9	2.7	5.6
Impact of FX	(44.7)	(16.2)	(60.9)
Total	$ (41.8)	$ (13.5)	$ (55.3)

__Adjusted EBITDA of our Reportable Segments__

Adjusted EBITDA is the primary measure used by our chief operating decision maker to evaluate segment operating performance. For the definition of this performance measure and for a reconciliation of profit or loss from continuing operations to Adjusted EBITDA, see note 19 to the Consolidated Financial Statements. The following table sets forth the Adjusted EBITDA of our reportable segments.

	Year ended December 31,		Increase (decrease)		Organic increase (decrease)	
	2022	2021	$	%	$	%
	in millions, except percentages					
Switzerland	$ 1,272.0	$ 1,375.2	$ (103.2)	(7.5)	$ (32.0)	(2.4)
Belgium	1,425.8	1,596.3	(170.5)	(10.7)	30.2	1.9
U.K. (a)	—	1,102.2	(1,102.2)	(100.0)	—	—
Ireland	200.5	222.2	(21.7)	(9.8)	2.8	1.3
Central and Other	(34.6)	(24.1)	(10.5)	(43.6)	(59.8)	N.M.
Intersegment eliminations	(1.0)	1.8	(2.8)	N.M.	(2.8)	N.M.
Total	$ 2,862.7	$ 4,273.6	$ (1,410.9)	(33.0)	$ (61.6)	(2.0)
VMO2 JV (b)	$ 4,864.3	$ 3,167.3	$ 1,697.0	53.6		
VodafoneZiggo JV	$ 2,091.8	$ 2,339.5	$ (247.7)	(10.6)		

N.M. — Not Meaningful.

(a) Represents the Adjusted EBITDA of the U.K. JV Entities through the June 1, 2021 closing of the U.K. JV Transaction.

(b) The 2021 amount represents the Adjusted EBITDA of the VMO2 JV for the period beginning June 1, 2021.

Adjusted EBITDA Margin

The following table sets forth the Adjusted EBITDA margins (Adjusted EBITDA divided by revenue) of each of our reportable segments:

	Year ended December 31,	
	2022	2021
Switzerland	40.0%	41.4%
Belgium	50.8%	52.0%
Ireland	40.5%	40.4%
VMO2 JV	37.9%	37.6%
VodafoneZiggo JV	48.8%	48.5%

In addition to organic changes in the revenue, costs of services, G&A and selling expenses of our reportable segments, the Adjusted EBITDA margins presented above include the impact of acquisitions, as applicable. For discussion of the factors contributing to the changes in the Adjusted EBITDA margins of our reportable segments, see the analysis of our revenue included in *Discussion and Analysis of our Reportable Segments* above and the analysis of our expenses included in *Discussion and Analysis of our Consolidated Operating Results* below. For discussion of the factors contributing to the changes in the Adjusted EBITDA margins of the VMO2 JV and the VodafoneZiggo JV, see *Discussion and Analysis of our Consolidated Operating Results — Share of results of affiliates, net* below.

Discussion and Analysis of our Consolidated Operating Results

General

For more detailed explanations of the changes in our revenue, see *Discussion and Analysis of our Reportable Segments* above.

Revenue

Our revenue by major category is set forth below:

	Year ended December 31,		Increase (decrease)		Organic increase (decrease)	
	2022	2021	$	%	$	%
	in millions, except percentages					
Residential revenue:						
Residential fixed revenue (a):						
Subscription revenue (b):						
Broadband internet	$ 1,378.2	$ 2,371.7	$ (993.5)	(41.9)	$ 39.2	2.7
Video	1,075.8	1,836.4	(760.6)	(41.4)	(62.4)	(5.1)
Fixed-line telephony	381.4	841.1	(459.7)	(54.7)	(43.7)	(9.5)
Total subscription revenue	2,835.4	5,049.2	(2,213.8)	(43.8)	(66.9)	(2.1)
Non-subscription revenue	94.5	161.2	(66.7)	(41.4)	(18.0)	(15.1)
Total residential fixed revenue	2,929.9	5,210.4	(2,280.5)	(43.8)	(84.9)	(2.6)
Residential mobile revenue (c):						
Subscription revenue (b)	1,401.4	1,630.7	(229.3)	(14.1)	63.6	4.4
Non-subscription revenue	543.7	760.8	(217.1)	(28.5)	(21.1)	(3.5)
Total residential mobile revenue	1,945.1	2,391.5	(446.4)	(18.7)	42.5	2.1
Total residential revenue	4,875.0	7,601.9	(2,726.9)	(35.9)	(42.4)	(0.8)
B2B revenue (d):						
Subscription revenue	515.1	619.0	(103.9)	(16.8)	18.6	3.4
Non-subscription revenue	861.7	1,243.8	(382.1)	(30.7)	68.6	7.9
Total B2B revenue	1,376.8	1,862.8	(486.0)	(26.1)	87.2	6.2
Other revenue (e)	942.3	851.2	91.1	10.7	75.0	8.4
Total	$ 7,194.1	$ 10,315.9	$ (3,121.8)	(30.3)	$ 119.8	1.6

(a) Residential fixed subscription revenue includes amounts received from subscribers for ongoing services and the recognition of deferred installation revenue over the associated contract period. Residential fixed non-subscription revenue includes, among other items, channel carriage fees, late fees and revenue from the sale of equipment.

(b) Residential 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 fixed and mobile products or the composition of bundles can contribute to changes in our product revenue categories from period to period.

(c) Residential mobile subscription revenue includes amounts received from subscribers for ongoing services. Residential mobile non-subscription revenue includes, among other items, interconnect revenue and revenue from sales of mobile handsets and other devices. Residential mobile interconnect revenue was $140.0 million and $232.6 million during 2022 and 2021, respectively.

(d) B2B subscription revenue represents revenue from (i) services provided to SOHO subscribers and (ii) mobile services provided to medium and large enterprises. SOHO subscribers pay a premium price to receive expanded service levels along with broadband internet, video, fixed-line telephony or mobile services that are the same or similar to the mass

marketed products offered to our residential subscribers. A portion of the change in our B2B subscription revenue is attributable to the conversion of certain residential subscribers to SOHO subscribers. B2B non-subscription revenue includes (a) revenue from business broadband internet, video, fixed-line telephony and data services offered to medium and large enterprises and, fixed-line and mobile services on a wholesale basis, to other operators and (b) revenue from long-term leases of portions of our network.

(e) Other revenue includes, among other items, (i) revenue earned from the U.K. JV Services and NL JV Services, (ii) broadcasting revenue in Belgium and Ireland, (iii) revenue earned from transitional and other services provided to various third parties and (iv) revenue earned from the sale of CPE to the VodafoneZiggo JV.

Total revenue. Our consolidated revenue decreased $3,121.8 million or 30.3% during 2022, as compared to 2021. This decrease includes a decrease of $2,736.4 million attributable to the impact of the U.K. JV Transaction. On an organic basis, our consolidated revenue increased $119.8 million or 1.6%.

Residential revenue. The details of the decrease in our consolidated residential revenue during 2022, as compared to 2021, are as follows (in millions):

Decrease in residential fixed subscription revenue due to change in:	
Average number of customers	$ (32.0)
ARPU	(34.9)
Decrease in residential fixed non-subscription revenue	(18.0)
Total decrease in residential fixed revenue	(84.9)
Increase in residential mobile subscription revenue	63.6
Decrease in residential mobile non-subscription revenue	(21.1)
Total decrease in residential revenue	(42.4)
Impact of acquisitions and dispositions	(2,287.4)
Impact of FX	(397.1)
Total decrease in residential revenue	$ (2,726.9)

On an organic basis, our consolidated residential fixed subscription revenue decreased $66.9 million or 2.1% during 2022, as compared to 2021, primarily attributable to a decrease in Switzerland.

On an organic basis, our consolidated residential fixed non-subscription revenue decreased $18.0 million or 15.1% during 2022, as compared to 2021, primarily due to a decrease in Switzerland.

On an organic basis, our consolidated residential mobile subscription revenue increased $63.6 million or 4.4% during 2022, as compared to 2021, primarily attributable to increases in Belgium and Switzerland.

On an organic basis, our consolidated residential mobile non-subscription revenue decreased $21.1 million or 3.5% during 2022, as compared to 2021, primarily due to a decrease in Belgium, partially offset by an increase in Switzerland.

B2B revenue. On an organic basis, our consolidated B2B subscription revenue increased $18.6 million or 3.4% during 2022, as compared to 2021, primarily due to an increase in Belgium.

On an organic basis, our consolidated B2B non-subscription revenue increased $68.6 million or 7.9% during 2022, as compared to 2021, primarily attributable to increases in Belgium and Switzerland.

Other revenue. On an organic basis, our consolidated other revenue increased $75.0 million or 8.4% during 2022, as compared to 2021, primarily attributable to an increase in Central and Other due to the net effect of (i) an increase in revenue earned from the sale of CPE to the VodafoneZiggo JV and (ii) a decrease in revenue earned from the NL JV Services.

Costs of services

Costs of services include programming and copyright costs, interconnect and access costs, costs of mobile handsets and other devices, network operations, customer operations, customer care, share-based compensation and other costs related to our operations. Programming and copyright costs represent a significant portion of our costs of services and are subject to rise in future periods due to various factors, including (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. We do not include share-based compensation and depreciation and amortization in the following discussion and analysis of the costs of services of our reportable segments as these items are not included in our performance measures. Share-based compensation expense and depreciation and amortization are discussed separately below.

Our costs of services (exclusive of share-based compensation expense and depreciation and amortization) decreased $1,280.9 million or 30.0% during 2022, as compared to 2021. This decrease includes a decrease of $1,267.4 million attributable to the impact of the U.K. JV Transaction. On an organic basis, our costs of services increased $167.7 million or 5.4%. This increase includes the following factors:

- An increase in costs of $65.8 million in Central and Other related to the sale of CPE to the VodafoneZiggo JV;

- An increase in business service costs of $35.5 million or 28.2%, primarily due to (i) an increase in energy costs, primarily in Belgium, and (ii) higher consulting costs, primarily in Central and Other;

- An increase in core network and information technology-related costs of $26.8 million or 10.6%, primarily due to (i) higher information technology-related expenses in Switzerland, Ireland, Central and Other and Belgium and (i) higher network maintenance costs, primarily due to an increase in Central and Other that was only partially offset by a decrease in Switzerland;

- A decrease in interconnect and access costs of $22.3 million or 2.8%, primarily due to the net effect of (i) lower interconnect and mobile roaming costs in Switzerland and Belgium, (ii) higher leased tower costs in Switzerland and (iii) lower MVNO costs in Switzerland;

- An increase in mobile handset and other device costs of $21.9 million or 6.7%, largely due to higher sales volumes in Switzerland;

- An increase in bad debt expense of $17.6 million or 82.3%, primarily in Switzerland. This increase includes $4.5 million recognized in Switzerland associated with the sale of certain handset receivables, for which the proceeds of CHF 110.3 million ($113.7 million at the applicable rate) were received on July 1, 2022. The expense recognized during the second quarter of 2022 represents the difference between the carrying amount of the associated receivables and the amount received pursuant to the sale; and

- An increase of $8.1 million associated with the impact of the classification of costs in connection with the U.K. JV Services provided by Central and Other, which, subsequent to the completion of the U.K. JV Transaction, are classified as direct costs of services. This increase was fully offset by a corresponding decrease in various SG&A expense categories within Central and Other.

G&A expenses

G&A expenses include human resources, information technology, general services, management, finance, legal, share-based compensation and other general expenses related to our administrative functions. We do not include share-based compensation and depreciation and amortization in the following discussion and analysis of the general and administrative expenses of our reportable segments as these items are not included in our performance measures. Share-based compensation expense and depreciation and amortization are discussed separately below.

Our G&A expenses (exclusive of share-based compensation expense and depreciation and amortization) decreased $342.4 million or 25.2% during 2022, as compared to 2021. This decrease includes a decrease of $273.8 million attributable to the impact of the U.K. JV Transaction. On an organic basis, our general and administrative expenses decreased $1.1 million or 0.1%.

Selling expenses

Selling expenses include costs associated with our sales and marketing function.

Our selling expenses (exclusive of share-based compensation expense) decreased $87.7 million or 21.1% during 2022, as compared to 2021. This decrease includes a decrease of $93.0 million attributable to the impact of the U.K. JV Transaction. On an organic basis, our selling expenses increased $14.8 million or 4.4%, primarily due to higher costs associated with advertising campaigns in Switzerland.

Share-based compensation expense (included in costs of services and G&A expenses)

Our share-based compensation expense primarily relates to the share-based incentive awards issued by Liberty Global to its employees and employees of its subsidiaries. A summary of our aggregate share-based compensation expense is set forth below:

	Year ended December 31,	
	2022	**2021**
	in millions	
Liberty Global:		
Non-performance based incentive awards (a)	$ 144.0	$ 193.8
Performance-based incentive awards (b)	7.1	59.6
Other (c)	30.8	33.6
Total Liberty Global	181.9	287.0
Telenet share-based incentive awards (d)	10.9	35.1
Other	9.8	11.2
Total	$ 202.6	$ 333.3
Included in:		
Costs of services	$ 5.2	$ 14.8
G&A expenses	197.4	318.5
Total	$ 202.6	$ 333.3

(a) In April 2021, the compensation committee of our board of directors approved the extension dates of outstanding SARs and director options granted in 2014 and 2015 from a seven-year term to a ten-year term. Accordingly, the Black-Scholes fair values of the respective outstanding awards increased, resulting in the recognition of an aggregate incremental share-based compensation expense of $22.7 million during 2021.

(b) Includes share-based compensation expense related to (i) our 2019 Challenge Performance Awards and (ii) in the 2021 period, PSUs and our 2019 CEO Performance Award.

(c) Represents annual incentive compensation and defined contribution plan liabilities that have been or are expected to be settled with Liberty Global ordinary shares. In the case of the annual incentive compensation, shares have been or will be issued to senior management and key employees pursuant to a shareholding incentive program. The shareholding incentive program allows these employees to elect to receive up to 100% of their annual incentive compensation in ordinary shares of Liberty Global in lieu of cash. In addition, amounts include compensation expense related to the 2022 and 2021 Ventures Incentive Plans.

(d) Represents the share-based compensation expense associated with Telenet's share-based incentive awards, which, at December 31, 2022, included performance- and non-performance-based stock option awards with respect to 3,519,920 Telenet shares. These stock option awards had a weighted average exercise price of €31.43 ($33.66).

For additional information concerning our share-based compensation, see note 14 to the Consolidated Financial Statements.

Depreciation and amortization expense (included in costs of services and G&A expenses)

Our depreciation and amortization expense was $2,386.4 million and $2,603.4 million during 2022 and 2021, respectively. Excluding the effects of FX, depreciation and amortization expense decreased $27.5 million or 1.1% during 2022, as compared to 2021. This decrease is primarily due to the net effect of (i) a decrease associated with certain assets becoming fully depreciated, primarily in Central and Other, Switzerland and Belgium and (ii) an increase associated with property and equipment additions related to the installation of CPE, the expansion and upgrade of our networks and other capital initiatives, primarily in Central and Other, Switzerland and Belgium.

Impairment, restructuring and other operating items, net

We recognized impairment, restructuring and other operating items, net, of $102.6 million during 2022, as compared to ($46.6 million) during 2021.

The 2022 amount primarily includes (i) a $39.6 million provision in Central and Other related to a legal contingency, (ii) direct acquisition and disposition costs of $19.4 million, primarily in Belgium, and (iii) restructuring charges of $13.3 million.

The 2021 amount primarily includes (i) a $108.6 million gain related to the settlement of certain litigation in Switzerland, (ii) restructuring charges of $56.2 million, including $53.7 million of employee severance and termination costs related to certain reorganization activities, primarily in Switzerland, and (iii) direct acquisition and disposition costs of $53.0 million, primarily related to costs incurred in connection with the formation of the VMO2 JV and the Sunrise Acquisition.

If, among other factors, (i) our equity values were to decline or (ii) 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, 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 non-current assets. Any such impairment charges could be significant.

For additional information regarding our restructuring charges, see note 17 to the Consolidated Financial Statements.

Net finance income

	Year ended December 31,	
	2022	2021
	in millions	
Finance income:		
Foreign currency transaction gains, net	$ 1,415.8	$ 1,324.5
Realized and unrealized gains on derivative instruments, net	1,191.7	622.9
Interest and dividend income	76.6	13.9
Gains on debt extinguishment, net	2.8	—
Realized and unrealized gains due to changes in fair values of certain investments, net	—	769.4
Total finance income	2,686.9	2,730.7
Finance costs:		
Interest expense	(709.8)	(982.9)
Realized and unrealized losses due to changes in fair values of certain investments, net	(295.6)	—
Losses on debt extinguishment, net	—	(90.6)
Total finance costs	(1,005.4)	(1,073.5)
Net finance income	$ 1,681.5	$ 1,657.2

Interest expense

We recognized interest expense of $709.8 million and $982.9 million during 2022 and 2021, respectively. Excluding the effects of FX, interest expense decreased $195.8 million or 19.9% during 2022, as compared to 2021. This decrease is primarily attributable to a lower average outstanding debt balance, largely due to the impact of the U.K. JV Transaction. For additional information regarding our outstanding indebtedness, see note 15 to the 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 9 to the Consolidated Financial Statements and under *Qualitative and Quantitative Disclosures about Market Risk* below, we use derivative instruments to manage our interest rate risks.

Realized and unrealized gains 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 on derivative instruments, net, are as follows:

	Year ended December 31,	
	2022	2021
	in millions	
Cross-currency and interest rate derivative contracts (a)	$ 1,185.5	$ 578.9
Foreign currency forward and option contracts	28.3	(31.8)
Equity-related derivative instruments:		
ITV Collar	—	(11.8)
Other	(21.4)	85.6
Total equity-related derivative instruments (b)	(21.4)	73.8
Other	(0.7)	2.0
Total	$ 1,191.7	$ 622.9

(a) The gains during 2022 and 2021 are attributable to net gains associated with changes in (i) certain market interest rates and (ii) the relative value of certain currencies. In addition, the gains during 2022 and 2021 include net losses of $16.6 million and $10.7 million, respectively, resulting from changes in our credit risk valuation adjustments.

(b) For information concerning the factors that impact the valuations of our equity-related derivative instruments, see note 3 to the Consolidated Financial Statements.

For additional information concerning our derivative instruments, see note 9 to the Consolidated Financial Statements and *Quantitative and Qualitative Disclosures about Market Risk* below.

Gains (losses) on debt extinguishment, net

We recognized net gains (losses) on debt extinguishment of $2.8 million and ($90.6 million) during 2022 and 2021, respectively.

The gain during 2022 is attributable to (i) a net gain associated with settlement discounts of $9.8 million, (ii) the write-off of $5.5 million of unamortized deferred financing costs and discounts and (iii) the payment of $1.5 million of third-party costs.

The loss during 2021 is attributable to (i) the write-off of $77.7 million of unamortized deferred financing costs and discounts and (ii) the payment of $12.9 million of redemption premiums.

For additional information concerning our gains (losses) on debt extinguishment, net, see note 15 to the Consolidated Financial Statements.

Realized and unrealized gains (losses) due to changes in fair values of certain investments, net

Our realized and unrealized gains or losses due to changes in fair values of certain investments include unrealized gains or losses associated with changes in fair values that are non-cash in nature until such time as these gains or losses are realized through cash transactions. For additional information regarding our investments and fair value measurements, see notes 8 and 10, respectively, to the Consolidated Financial Statements. The details of our realized and unrealized gains (losses) due to changes in fair values of certain investments, net, are as follows:

	Year ended December 31,	
	2022	2021
	in millions	
ITV	$ (233.9)	$ 15.3
Pax8	79.3	—
Lionsgate	(69.2)	33.9
SMAs	(49.1)	(10.1)
EdgeConneX	43.4	28.9
Plume	(34.8)	171.2
Skillz	(34.7)	(100.4)
TiBiT (a)	26.4	—
Lacework	(26.3)	223.9
Televisa Univision	23.1	301.6
Aviatrix	—	65.4
Other, net (b)	(19.8)	39.7
Total	$ (295.6)	$ 769.4

(a) Our investment in TiBiT was sold during the fourth quarter of 2022.

(b) Includes gains of $15.7 million and $12.9 million, respectively, related to investments that were sold during the year.

Foreign currency transaction gains, 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 the underlying functional currency of the applicable entity. 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,	
	2022	2021
	in millions	
Intercompany payables and receivables denominated in a currency other than the entity's functional currency (a)	$ 1,806.7	$ 1,595.7
U.S. dollar denominated debt issued by euro functional currency entities	(476.7)	(399.1)
Cash and restricted cash denominated in a currency other than the entity's functional currency	80.9	(101.1)
U.S. dollar denominated debt issued by British pound sterling functional currency entities	—	246.2
Euro denominated debt issued by British pound sterling functional currency entities	—	(24.1)
Other	4.9	6.9
Total	$ 1,415.8	$ 1,324.5

(a) Amounts primarily relate to (i) loans between certain of our non-operating and operating subsidiaries in Europe, which generally are denominated in the currency of the applicable operating subsidiary and (ii) loans between certain of our non-operating subsidiaries in the U.S. and Europe.

For information regarding how we manage our exposure to foreign currency risk, see *Quantitative and Qualitative Disclosures about Market Risk — Foreign Currency Risk* below.

Share of results of affiliates, net

The following table sets forth the details of our share of results of affiliates, net:

	Year ended December 31,	
	2022	2021
	in millions	
VMO2 JV (a)	$ 281.1	$ (126.6)
VodafoneZiggo JV (b)	236.5	(44.8)
Streamz	(35.2)	(0.7)
Eltrona	(34.2)	(17.2)
AtlasEdge JV	(23.3)	(5.8)
Formula E	(20.2)	(2.5)
All3Media	(10.0)	(17.4)
Other	12.3	(0.8)
Total	$ 407.0	$ (215.8)

(a) Represents (i) our 50% share of the results of operations of the VMO2 JV and (ii) 100% of the share-based compensation expense associated with Liberty Global awards granted to VMO2 JV employees who were formerly employees of Liberty Global prior to the VMO2 JV formation, as these awards remain our responsibility. The summarized results of operations of the VMO2 JV are set forth below:

	Year ended December 31,	
	2022	2021 (1)
	in millions	
Revenue	$ 12,817.8	$ 8,430.0
Adjusted EBITDA	$ 4,864.3	$ 3,167.3
Operating profit (2)	$ 243.6	$ 289.1
Non-operating income (expense) (3)	$ 697.7	$ (244.3)
Net profit (loss)	$ 932.4	$ (112.2)

(1) Includes the operating results of the VMO2 JV for the period from June 1, 2021 through December 31, 2021.

(2) Includes depreciation and amortization expense of $4,397.0 million and $2,795.0 million, respectively.

(3) Includes interest expense of $1,073.9 million and $573.0 million, respectively.

The VMO2 JV was formed on June 1, 2021. As a result, the reported amounts for 2021 are based on results for the period beginning June 1, 2021. The change in the VMO2 JV's revenue during 2022, as compared to 2021, is primarily due to the net effect of (i) an increase in mobile subscription revenue and (ii) a decrease in B2B revenue, with each revenue category as defined and reported by the VMO2 JV. The change in the VMO2 JV's Adjusted EBITDA during 2022, as compared to 2021, is primarily due to the net effect of (a) the realization of synergies and cost efficiencies and (b) higher energy costs. In addition, the reported revenue and Adjusted EBITDA amounts are impacted by FX.

(b) Represents (i) our 50% share of the results of operations of the VodafoneZiggo JV and (ii) interest income of $53.8 million and $56.5 million, respectively, representing 100% of the interest earned on the VodafoneZiggo JV Receivables. The summarized results of operations of the VodafoneZiggo JV are set forth below:

	Year ended December 31,	
	2022	2021
	in millions	
Revenue	$ 4,284.6	$ 4,824.2
Adjusted EBITDA	$ 2,091.8	$ 2,339.5
Operating profit (1)	$ 467.9	$ 277.5
Non-operating income (expense) (2)	$ 131.0	$ (532.8)
Net profit (loss)	$ 385.3	$ (180.0)

____

(1) Includes depreciation and amortization of $1,620.4 million and $1,889.0 million, respectively.

(2) Includes interest expense of $606.4 million and $605.0 million, respectively.

The decrease in the VodafoneZiggo JV's revenue during 2022, as compared to 2021, is primarily due to the net effect of (i) a decrease in residential fixed revenue, (ii) an increase in B2B revenue and (iii) higher residential mobile revenue. The decrease in the VodafoneZiggo JV's Adjusted EBITDA during 2022, as compared to 2021, is primarily due to inflation-related increases in energy and staff costs. In addition, the reported revenue and Adjusted EBITDA amounts are impacted by FX.

For additional information regarding our equity method investments, see note 8 to the Consolidated Financial Statements.

Gain on Telenet Tower Sale

In connection with the Telenet Tower Sale, we recognized a pre-tax gain during 2022 of $391.9 million. For additional information, see note 6 to the Consolidated Financial Statements.

Gain on U.K. JV Transaction

In connection with the U.K. JV Transaction, we recognized a pre-tax gain during 2021 of $10,841.4 million, net of the recognition of a cumulative foreign currency translation loss of $639.1 million. For additional information, see note 6 to the Consolidated Financial Statements.

Gain on AtlasEdge JV Transactions

In connection with the AtlasEdge JV Transactions, we recognized a pre-tax gain during 2021 of $211.3 million, net of the recognition of a cumulative foreign currency translation loss of $1.8 million. For additional information, see note 6 to the Consolidated Financial Statements.

Other income (expense), net

We recognized other income (expense), net, of $22.7 million and ($6.0 million) during 2022 and 2021, respectively.

Income tax benefit (expense)

We recognized income tax benefit (expense) of ($200.3 million) and $177.2 million during 2022 and 2021, respectively.

The income tax expense during 2022 differs from the expected income tax expense of $508.1 million (based on the U.K. statutory income tax rate of 19.0%), primarily due to the positive impact of (i) non-deductible or non-taxable foreign currency exchange results and (ii) certain permanent differences between the financial and tax accounting treatment of items associated with investments in subsidiaries and affiliates. This positive impact was partially offset by the negative impact of (a) international rate differences and (b) non-deductible or non-taxable interest and other expenses.

The income tax benefit during 2021 differs from the expected income tax expense of $2,635.6 million (based on the U.K. statutory income tax rate of 19.0%), primarily due to the positive impact of (i) the non-taxable gain associated with the U.K. JV Transaction and (ii) an increase in deferred tax assets in the U.K. due to an enacted change in tax law.

For additional information concerning our income taxes, see note 11 to the Consolidated Financial Statements.

Profit from continuing operations

During 2022 and 2021, we reported profit from continuing operations of $2,473.9 million and $14,048.8 million, respectively, consisting of (i) operating profit of $171.1 million and $1,383.5 million, respectively, (ii) net non-operating income of $2,503.1 million and $12,488.1 million, respectively, and (iii) income tax benefit (expense) of ($200.3 million) and $177.2 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 and changes in ownership 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 generate profit is largely dependent on our ability to increase our aggregate operating profit to a level that more than offsets the aggregate amount of our (a) interest expense, (b) other non-operating expenses and (c) income tax expense.

Due largely to the fact that we seek to maintain our debt at levels that provide for attractive equity returns, as discussed under *Liquidity and Capital Resources — Capitalization* below, we expect 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 certain aspects of our operating results in future periods, see the discussion under *Overview* above. For information concerning the reasons for changes in specific line items in our consolidated statements of profit or loss, see *Discussion and Analysis of our Reportable Segments* and *Discussion and Analysis of our Consolidated Operating Results* above.

Profit from discontinued operations, net of taxes

We reported profit from discontinued operations, net of taxes, of $34.6 million and $82.5 million during 2022 and 2021, respectively, related to the results of UPC Poland. In addition, we recognized a gain on the sale of UPC Poland of $735.3 million during 2022, which includes a cumulative foreign currency translation loss of $100.2 million. For additional information, see note 6 to the Consolidated Financial Statements.

Net profit attributable to noncontrolling interests

Net profit attributable to noncontrolling interests was $421.7 million and $181.8 million during 2022 and 2021, respectively, primarily attributable to the results of operations of Telenet.

Liquidity and Capital Resources

Sources and Uses of Cash

We are a holding company that is dependent on the capital resources of our subsidiaries to satisfy our liquidity requirements at the corporate level. Each of our significant operating subsidiaries is separately financed within one of our three subsidiary “borrowing groups”. These borrowing groups include the respective restricted parent and subsidiary entities within UPC Holding, Telenet and VM Ireland. Although our borrowing groups typically generate cash from operating activities, the terms of the instruments governing the indebtedness of these borrowing groups may restrict our ability to access the liquidity of these subsidiaries. In addition, our ability to access the liquidity of these and other subsidiaries may be limited by tax and legal considerations, the presence of noncontrolling interests and other factors.

Cash, Cash Equivalents and SMAs

The details of the U.S. dollar equivalent balances of our consolidated cash and cash equivalents and investments held under SMAs at December 31, 2022 are set forth in the following table (in millions):

Cash and cash equivalents held by:	
Liberty Global and unrestricted subsidiaries:	
Liberty Global (a)	$ 1.8
Unrestricted subsidiaries (b)	580.5
Total Liberty Global and unrestricted subsidiaries	582.3
Borrowing groups (c):	
Telenet	1,140.0
UPC Holding	3.0
VM Ireland	0.9
Total borrowing groups	1,143.9
Total cash and cash equivalents (d)	1,726.2
Investments held under SMAs (e)	2,854.6
Total cash and cash equivalents and investments held under SMAs	$ 4,580.8

(a) Represents the amount held by Liberty Global on a standalone basis.

(b) Represents the aggregate amount held by subsidiaries that are outside of our borrowing groups.

(c) Represents the aggregate amounts held by the parent entity and restricted subsidiaries of our borrowing groups.

(d) The total cash and cash equivalents balance includes $1,307.9 million or 75.8% and $347.2 million or 20.1% denominated in euros and U.S. dollars, respectively.

(e) The balance of our investments held under SMAs was denominated entirely in U.S. dollars.

For additional information regarding our cash and cash equivalents and investments held under SMAs, see the discussion under *Quantitative and Qualitative Disclosures about Market Risk — Cash and Investments* below.

Liquidity of Liberty Global and its Unrestricted Subsidiaries

The $1.8 million of cash and cash equivalents held by Liberty Global and, subject to certain tax and legal considerations, the $580.5 million of aggregate cash and cash equivalents held by unrestricted subsidiaries, together with the $2,854.6 million of investments held under SMAs, represented available liquidity at the corporate level at December 31, 2022. Our remaining cash and cash equivalents of $1,143.9 million at December 31, 2022 were held by our borrowing groups, as set forth in the table above. As noted above, various factors may limit our ability to access the cash of our borrowing groups. For information regarding certain limitations imposed by our subsidiaries' debt instruments at December 31, 2022, see note 15 to the Consolidated Financial Statements.

Our short-term sources of corporate liquidity include (i) cash and cash equivalents held by Liberty Global and, subject to certain tax and legal considerations, Liberty Global's unrestricted subsidiaries, (ii) investments held under SMAs, (iii) interest and dividend income received on our and, subject to certain tax and legal considerations, our unrestricted subsidiaries' cash and cash equivalents and investments, including dividend distributions received from the VMO2 JV or the VodafoneZiggo JV, (iv) cash received with respect to transitional and other services provided to various third parties and (v) interest payments received with respect to the VodafoneZiggo JV Receivables.

From time to time, Liberty Global and its unrestricted subsidiaries may also receive (i) proceeds in the form of dividend distributions or loan repayments from Liberty Global's borrowing groups or affiliates (including amounts from the VMO2 JV or the VodafoneZiggo JV) upon (a) the completion of recapitalizations, refinancings, asset sales or similar transactions by these entities or (b) the accumulation of excess cash from operations or other means, (ii) proceeds upon the disposition of investments and other assets of Liberty Global and its unrestricted subsidiaries, such as the sale of UPC Poland, and (iii) proceeds in connection with the incurrence of debt by Liberty Global or its unrestricted subsidiaries or the issuance of equity securities by Liberty Global, including equity securities issued to satisfy subsidiary obligations. No assurance can be given that any external funding would be available to Liberty Global or its unrestricted subsidiaries on favorable terms, or at all.

At December 31, 2022, our consolidated cash and cash equivalents balance included $1,345.8 million held by entities that are domiciled outside of the U.K. Based on our assessment of our ability to access the liquidity of our subsidiaries on a tax efficient basis and our expectations with respect to our corporate liquidity requirements, we do not anticipate that tax considerations will adversely impact our corporate liquidity over the next 12 months. Our ability to access the liquidity of our subsidiaries on a tax efficient basis is a consideration in assessing the extent of our share repurchase program.

In addition, the amount of cash we receive from our subsidiaries and affiliates to satisfy U.S. dollar-denominated liquidity requirements is impacted by fluctuations in exchange rates, particularly with regard to the translation of euros, British pound sterling and Swiss francs into U.S. dollars. In this regard, the strengthening (weakening) of the U.S. dollar against these currencies will result in decreases (increases) in the U.S. dollars received from the applicable subsidiaries to fund the repurchase of our equity securities and other U.S. dollar-denominated liquidity requirements.

Our short- and long-term liquidity requirements include corporate general and administrative expenses and, from time to time, cash requirements in connection with (i) the repayment of third-party and intercompany debt, (ii) the satisfaction of contingent liabilities, (iii) acquisitions, (iv) the repurchase of equity and debt securities, (v) other investment opportunities, (vi) any funding requirements of our subsidiaries and affiliates or (vii) income tax payments. In addition, our parent entity uses available liquidity to make interest and principal payments on notes payable to certain of our unrestricted subsidiaries (aggregate outstanding principal of $12.7 billion at December 31, 2022 with varying maturity dates).

During 2022, the aggregate amount of our share repurchases, including direct acquisition costs, was $1,702.6 million. As a U.K. incorporated company, we may only elect to repurchase shares or pay dividends to the extent of our Distributable Reserves. Under our current repurchase program, we are authorized during 2023 to repurchase 10% of our total outstanding shares as of the beginning of the year. For additional information regarding our share repurchase programs, see note 13 to the Consolidated Financial Statements.

Liquidity of Borrowing Groups

The cash and cash equivalents of our borrowing groups are detailed in the table above. In addition to cash and cash equivalents, the primary sources of liquidity of our borrowing groups are cash provided by operations and borrowing availability under their respective debt instruments. For the details of the borrowing availability of our borrowing groups at December 31, 2022, see note 15 to the Consolidated Financial Statements. The aforementioned sources of liquidity may be supplemented in certain cases by contributions and/or loans from Liberty Global and its unrestricted subsidiaries.

The liquidity of our borrowing groups generally is used to fund (i) property, equipment and intangible asset additions, (ii) debt service requirements and (iii) income tax payments, as well as to settle certain obligations that are not included in our December 31, 2022 consolidated statement of financial position. In this regard, we have significant commitments related to (a) certain operating costs associated with our networks, (b) purchase obligations associated with CPE and certain service-related commitments and (c) programming, studio output and sports rights contracts. These obligations are expected to represent a significant liquidity requirement of our borrowing groups, a significant portion of which is due over the next 12 to 24 months. For additional information regarding our commitments, see note 21 to the Consolidated Financial Statements.

From time to time, our borrowing groups may also require liquidity in connection with (i) acquisitions and other investment opportunities, (ii) loans to Liberty Global, (iii) capital distributions to Liberty Global and other equity owners or (iv) the satisfaction of contingent liabilities. No assurance can be given that any external funding would be available to our borrowing groups on favorable terms, or at all.

For additional information regarding our consolidated cash flows, see the discussion under *Consolidated Statements of Cash Flows* below.

Capitalization

We seek to maintain our debt at levels that provide for attractive equity returns without assuming undue risk. In this regard, we generally seek to cause our operating subsidiaries to maintain their debt at levels that result in a consolidated debt balance (measured using subsidiary debt figures at swapped foreign currency exchange rates, consistent with the covenant calculation requirements of our subsidiary debt agreements) that is between four and five times our consolidated Adjusted EBITDA, although the timing of our acquisitions and financing transactions and the interplay of average and spot foreign currency rates may impact this ratio. Consolidated Adjusted EBITDA is a non-GAAP measure, which investors should view as a supplement to, and not a substitute for, IFRS measures of performance included in our consolidated statements of profit or loss.

Our ability to service or refinance our debt and to maintain compliance with the leverage covenants in the credit agreements and indentures of our borrowing groups is dependent primarily on our ability to maintain or increase the Adjusted EBITDA of our operating subsidiaries and to achieve adequate returns on our property, equipment and intangible asset additions and acquisitions. In addition, our ability to obtain additional debt financing is limited by the incurrence-based leverage covenants contained in the various debt instruments of our borrowing groups. For example, if the Adjusted EBITDA of one of our borrowing groups were to decline, our ability to obtain additional debt could be limited. Under our credit facilities and senior and senior secured notes there is no cross-default risk between subsidiary borrowing groups in the event that one or more of our borrowing groups were to experience significant declines in their Adjusted EBITDA to the extent they were no longer able to service their debt obligations. Any mandatory prepayment events or events of default that may occur would only impact the relevant borrowing group in which these events occur and do not allow for any recourse to other borrowing groups or Liberty Global plc. Our credit facilities and senior and senior secured notes require that certain members of the relevant borrowing group guarantee the payment of all sums payable thereunder and such group members are required to grant first-ranking security over their shares or, in certain borrowing groups, over substantially all of their assets to secure the payment of all sums payable thereunder. At December 31, 2022, each of our borrowing groups was in compliance with its debt covenants. In addition, we do not anticipate any instances of non-compliance with respect to the debt covenants of our borrowing groups that would have a material adverse impact on our liquidity during the next 12 months.

At December 31, 2022, the outstanding principal amount of our consolidated debt, together with our lease obligations, aggregated $16.1 billion, including $1.1 billion that is classified as current in our consolidated statement of financial position and $14.1 billion that is not due until 2028 or thereafter. All of our consolidated debt and lease obligations have been borrowed or incurred by our subsidiaries at December 31, 2022.

We believe we have sufficient resources to repay or refinance the current portion of our debt and 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 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 and equity markets we access and, accordingly, our future liquidity and financial position. Our ability to access debt financing on favorable terms, or at all, could be adversely impacted by (i) the financial failure of any of our counterparties, which 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. In addition, any weakness in the equity markets could make it less attractive to use our shares to satisfy contingent or other obligations, and sustained or increased competition,

particularly in combination with adverse economic or regulatory developments, could have an unfavorable impact on our cash flows and liquidity.

For additional information concerning our debt and lease obligations, see notes 15 and 16, respectively, to the Consolidated Financial Statements.

Consolidated Statements of Cash Flows

General. Our cash flows are subject to significant variations due to FX. See related discussion under *Quantitative and Qualitative Disclosures about Market Risk — Foreign Currency Risk* below.

Summary. The 2022 and 2021 consolidated statements of cash flows of our continuing operations are summarized as follows:

	Year ended December 31,		
	2022	2021	Change
		in millions	
Net cash provided by operating activities	$ 2,971.7	$ 3,580.5	$ (608.8)
Net cash provided (used) by investing activities	1,233.3	(5,815.7)	7,049.0
Net cash used by financing activities	(3,395.1)	(1,658.8)	(1,736.3)
Effect of exchange rate changes on cash and cash equivalents and restricted cash	(27.7)	(6.6)	(21.1)
Net increase (decrease) in cash and cash equivalents and restricted cash	$ 782.2	$ (3,900.6)	$ 4,682.8

Operating Activities. The decrease in net cash provided by our operating activities is primarily attributable to the net effect of (i) a decrease in cash provided by our Adjusted EBITDA and related working capital items, which includes (a) the impact of the U.K. JV Transaction and (b) an increase in cash of $113.7 million (at the applicable rate) in connection with the sale of certain handset receivables in Switzerland, (ii) an increase in cash provided due to higher dividend distributions from the VMO2 JV, (iii) a decrease due to FX, (iv) an increase in cash provided due to lower payments of interest, including the impact of the U.K. JV Transaction, (v) an increase in cash provided due to higher net cash receipts related to derivative instruments and (vi) an increase in cash provided due to higher receipts of interest. Consolidated Adjusted EBITDA is a non-IFRS measure, which investors should view as a supplement to, and not a substitute for, IFRS measures of performance included in our consolidated statements of profit or loss.

Investing Activities. The change in net cash provided (used) by our investing activities is primarily attributable to (i) an increase in cash of $3,424.0 million associated with restricted cash contributed to the VMO2 JV in connection with the U.K. JV Transaction during the first six months of 2021, (ii) an increase in cash of $1,553.3 million in connection with the sale of UPC Poland, (iii) an increase in cash of $870.4 million associated with lower net cash paid for investments, primarily related to our investments held under SMAs, (iv) an increase in cash of $779.9 million in connection with the Telenet Tower Sale and (v) an increase in cash of $477.9 million due to higher dividend distributions received from the VMO2 JV. Capital expenditures decreased from $1,478.3 million during 2021 to $1,366.5 million during 2022 due to the net effect of (a) a decrease due to the impact of the U.K. JV Transaction, (b) a decrease due to FX and (c) an increase in our net local currency capital expenditures and related working capital movements, including the impact of lower capital-related vendor financing.

The capital expenditures we report in our consolidated statements of cash flows do not include amounts that are financed under capital-related vendor financing or lease arrangements. Instead, these amounts are reflected as non-cash additions to our property, equipment and intangible assets 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 capital-related vendor financing or lease arrangements, and (ii) our total property, equipment and intangible asset additions, which include our capital expenditures on an accrual basis and amounts financed under capital-related vendor financing or lease arrangements. For further details regarding our property, equipment and intangible additions, see note 18 to the Consolidated Financial Statements. A reconciliation of our consolidated property, equipment and intangible asset additions to our consolidated capital expenditures, as reported in our consolidated statements of cash flows, is set forth below:

	Year ended December 31,	
	2022	2021
	in millions	
Property, equipment and intangible asset additions	$ 2,432.2	$ 2,348.3
Assets acquired under capital-related vendor financing arrangements	(182.8)	(661.1)
Assets acquired under leases	(397.7)	(162.7)
Changes in current liabilities related to capital expenditures	(485.2)	(46.2)
Capital expenditures, net	$ 1,366.5	$ 1,478.3

The decrease in our property, equipment and intangible asset additions during 2022, as compared to 2021, is primarily due to the net effect of (i) a decrease due to the impact of the U.K. JV Transaction, (ii) a decrease due to FX, (iii) an increase in local currency expenditures of our subsidiaries due to the net effect of (a) an increase in expenditures for the purchase and installation of CPE, (b) an increase in expenditures for new build and upgrade projects, (c) a decrease in baseline expenditures, including network improvements and expenditures for property and facilities and information technology systems and (d) a decrease in expenditures to support new customer products and operational efficiency initiatives. During 2022 and 2021, our property, equipment and intangible asset additions represented 33.8% and 22.8% of revenue, respectively.

We expect our 2023 property, equipment and intangible asset additions to remain relatively stable as compared to our 2022 property, equipment and intangible asset additions. The actual amount of our 2023 property, equipment and intangible asset additions may vary from our expectations for a variety of reasons, including (i) changes in (a) the competitive or regulatory environment, (b) business plans, (c) our expected future operating results or (d) foreign currency exchange rates and (ii) the availability of sufficient capital. Accordingly, no assurance can be given that our actual property, equipment and intangible asset additions will not vary materially from our expectations.

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 $1,825.9 million due to higher net repayments of debt, (ii) a decrease in cash used of $287.3 million due to lower net repayments of vendor financing, including the impact of the U.K. JV Transaction, (iii) an increase in cash used of $193.6 million due to higher net payments related to derivatives and (iv) an increase in cash used of $123.0 million due to higher repurchases of Liberty Global ordinary shares.

Adjusted Free Cash Flow

We define adjusted free cash flow as net cash provided by the operating activities of our continuing operations, plus operating-related vendor financed expenses (which represents an increase in the period to our actual cash available as a result of extending vendor payment terms beyond normal payment terms, which are typically 90 days or less, through non-cash financing activities), less (i) cash payments in the period for capital expenditures, (ii) principal payments on operating- and capital-related amounts financed by vendors and intermediaries (which represents a decrease in the period to our actual cash available as a result of paying amounts to vendors and intermediaries where we previously had extended vendor payments beyond the normal payment terms) and (iii) principal payments on leases (which represents a decrease in the period to our actual cash available), each as reported in our consolidated statements of cash flows with each item excluding any cash provided or used by our discontinued operations. Net cash provided by operating activities of our continuing operations includes cash paid for third-party costs directly associated with successful and unsuccessful acquisitions and dispositions of $36.2 million and $80.5 million during 2022 and 2021, respectively.

We believe our presentation of adjusted free cash flow, which is a non-IFRS measure, provides useful information to our investors because this measure can be used to gauge our ability to (i) service debt and (ii) fund new investment opportunities after consideration of all actual cash payments related to our working capital activities and expenses that are capital in nature whether paid inside normal vendor payment terms or paid later outside normal vendor payment terms (in which case we typically pay in less than 365 days). Adjusted free cash flow should not be understood to represent our ability to fund discretionary amounts, as we have various mandatory and contractual obligations, including debt repayments, that are not deducted to arrive at these amounts. Investors should view adjusted free cash flow as a supplement to, and not a substitute for, IFRS measures of liquidity included in our consolidated statements of cash flows. Further, our adjusted free cash flow may differ from how other companies define and apply their definition of adjusted free cash flow.

The following table provides the details of our adjusted free cash flow:

	Year ended December 31,	
	2022	2021
	in millions	
Net cash provided by operating activities of our continuing operations	$ 2,971.7	$ 3,580.5
Operating-related vendor financing additions (a)	522.7	1,781.6
Cash capital expenditures, net	(1,366.5)	(1,478.3)
Principal payments on operating-related vendor financing	(616.1)	(1,408.0)
Principal payments on capital-related vendor financing	(210.1)	(964.4)
Principal payments on leases	(183.7)	(221.9)
Adjusted free cash flow	$ 1,118.0	$ 1,289.5

____

(a) For purposes of our consolidated statements of cash flows, operating-related vendor financing additions represent operating-related expenses financed by an intermediary that are treated as constructive operating cash outflows and constructive financing cash inflows when the intermediary settles the liability with the vendor. When we pay the financing intermediary, we record financing cash outflows in our consolidated statements of cash flows. For purposes of our adjusted free cash flow definition, we (i) add in the constructive financing cash inflow when the intermediary settles the liability with the vendor as our actual net cash available at that time is not affected and (ii) subsequently deduct the related financing cash outflow when we actually pay the financing intermediary, reflecting the actual reduction to our cash available to service debt or fund new investment opportunities.

Critical Accounting Policies, Judgments and Estimates

In connection with the preparation of the 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 the 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 goodwill;
- Costs associated with the capitalization of property and equipment;
- Fair value measurements; and
- Income tax accounting.

We have discussed the selection of the aforementioned critical accounting policies with the audit committee of our board of directors. For additional information concerning our significant accounting policies, see note 3 to the Consolidated Financial Statements.

Impairment of Goodwill

Carrying Value. The aggregate carrying value of our goodwill comprised 21.1% of our total assets at December 31, 2022.

We evaluate goodwill for impairment at least annually on October 1 and whenever facts and circumstances indicate that a CGU's carrying amount may not be recoverable. If the fair value of one of our CGUs is less than its carrying value, any excess would be charged to operations as an impairment loss. A CGU 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 CGUs. The equity of one of our CGUs, Telenet, is publicly traded in an active market. For this CGU, our fair value determination is based on quoted market prices. For other CGUs, we typically determine fair value using a fair value less costs to sell method, with the recoverable amount based primarily on observable EBITDA multiples for recent transactions and publicly-traded peer companies, which are Level 2 inputs in the fair value hierarchy and subject to management's judgment in selection. Based on the results of our 2022 assessment of our CGU carrying values, we determined that it was more likely-than-not that fair value exceeded carrying value for all of our CGUs.

During the two years ended December 31, 2022, we did not record any significant impairment charges with respect to our goodwill. For additional information regarding our goodwill, see note 7 to the Consolidated Financial Statements.

If, among other factors, (i) our equity values were to decline or (ii) 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, we could conclude in future periods that impairment charges are required in order to reduce the carrying values of our goodwill. Any such impairment charges could be significant.

Costs Associated with the Capitalization of Property and Equipment

We capitalize costs associated with the construction of new, or upgrades to existing, fixed and mobile transmission and distribution facilities, the installation of new fixed-line services and the development of internal-use software. Installation activities that are capitalized include (i) the initial connection (or drop) from our fixed-line system to a customer location, (ii) the replacement of a drop and (iii) the installation of equipment for new, or upgrades to existing, fixed-line services. 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. We capitalize internal and external costs directly associated with the development of internal-use software.

We make judgments regarding the construction, upgrade and installation activities to be capitalized and the development of internal-use software. 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, 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, construction or upgrade activities or the development of internal-use software are performed.

Fair Value Measurements

IFRS 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 and our fair value method investments. We use (i) cash flow valuation models to determine the fair values of our interest rate and foreign currency derivative instruments and (ii) a Black-Scholes option pricing model to determine the fair values of our equity-related derivative instruments. We use quoted market prices when available and, when not available, we use a combination of an income approach (discounted cash flows) and a market approach (market multiples of similar businesses) to determine the fair value of our fair value method investments. For a detailed discussion of the inputs we use to determine the fair value of our derivative instruments and fair value method investments, see note 10 to the Consolidated Financial Statements. See also notes 8 and 9 to the Consolidated Financial Statements for information concerning our fair value method investments and derivative instruments, respectively.

Changes in the fair values of our derivative instruments and fair value method investments have had, and we believe will continue to have, a significant and volatile impact on our results of operations. During 2022 and 2021 we recognized net gains of $896.1 million and $1,392.3 million, respectively, attributable to changes in the fair values of these items.

As further described in note 10 to the Consolidated Financial Statements, actual amounts received or paid upon the settlement or disposition of these investments and instruments may differ materially from the recorded fair values at December 31, 2022.

For information concerning the sensitivity of the fair value of certain of our more significant derivative instruments to changes in market conditions, see *Quantitative and Qualitative Disclosures About Market Risk — Sensitivity Information* below.

Nonrecurring Valuations. Our nonrecurring valuations are primarily associated with (i) the application of acquisition accounting, (ii) impairment assessments and (iii) the accounting for our initial investment in significant joint ventures, 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 non-current 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 non-current assets were initially recorded through the application of acquisition accounting and all of our non-current assets are subject to impairment assessments. For additional information, see note 10 to the Consolidated Financial Statements. For information regarding our acquisitions and non-current assets, see notes 5 and 7 to the Consolidated Financial Statements, respectively.

Income Tax Accounting

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 or substantially 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 recognized to the extent that the realization of them is considered probable. Recognizing deferred tax assets requires us to make assessments about the timing of future events, including the probability of expected

future taxable income and available tax planning strategies. At December 31, 2022, the aggregate of unrecognized deferred tax assets was $1,548.7 million. 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, 2022 consolidated statement of financial position 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 the 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.

Tax laws in jurisdictions in which we have a presence are subject to varied interpretation, and many tax positions we take are subject to significant 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 considered probable that the position will be sustained upon examination. The determination of whether the tax position meets the probable threshold requires a facts-based judgment using all information available. In a number of cases, we have concluded that the probable threshold is not met and, accordingly, the amount of tax benefit recognized in the Consolidated Financial Statements is different than the amount taken or expected to be taken in our tax returns.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risk in the normal course of our business operations due to our investments in various foreign countries and ongoing investing and financing activities. Market risk refers to the risk of loss arising from adverse changes in foreign currency exchange rates, interest rates and stock prices. The risk of loss can be assessed from the perspective of adverse changes in fair values, cash flows and future earnings. As further described below, we have established policies, procedures and processes governing our management of market risks and the use of derivative instruments to manage our exposure to such risks.

Cash and Investments

We invest our cash in highly liquid instruments that meet high credit quality standards. We are exposed to exchange rate risk to the extent that the denominations of our cash and cash equivalent balances, revolving lines of credit and other short-term sources of liquidity do not correspond to the denominations of our and our subsidiaries' short-term liquidity requirements. In order to mitigate this risk, we actively manage the denominations of our cash balances in light of our and our subsidiaries' forecasted liquidity requirements. At December 31, 2022 and 2021, our consolidated cash balances included $1,307.9 million or 75.8% and $387.3 million or 42.5%, respectively, denominated in euros and $347.2 million or 20.1% and $468.8 million or 51.5%, respectively, denominated in U.S. dollars. At December 31, 2022 and 2021, the balances of our consolidated investments held under SMAs of $2,854.6 million and $2,801.3 million, respectively, were denominated entirely in U.S. dollars.

Foreign Currency Risk

We are exposed to foreign currency exchange rate risk with respect to our consolidated debt in situations where our debt is denominated in a currency other than the functional currency of the operations whose cash flows support our ability to repay or refinance such debt. Although we generally match the denomination of our and our subsidiaries' borrowings with the functional currency of the operations that are supporting the respective borrowings, market conditions or other factors may cause us to enter into borrowing arrangements that are not denominated in the functional currency of the underlying operations (unmatched debt). In these cases, our policy is 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, 2022, substantially all of our debt was either directly or synthetically matched to the applicable functional currencies of the underlying operations. For additional information concerning the terms of our derivative instruments, see note 9 to the Consolidated Financial Statements.

In addition to the exposure that results from the mismatch of our borrowings and underlying functional currencies, we are exposed to foreign currency risk to the extent that we enter into transactions denominated in currencies other than our or our subsidiaries' respective functional currencies (non-functional currency risk), such as equipment purchases, programming contracts, notes payable and notes receivable (including intercompany amounts). Changes in exchange rates with respect to amounts recorded in our consolidated statements of financial position related to these items will result in unrealized (based upon period-end exchange rates) or realized foreign currency transaction gains and losses upon settlement of the transactions. Moreover, to the extent that our revenue, costs and expenses are denominated in currencies other than our respective functional currencies, we will experience fluctuations in our revenue, costs and expenses solely as a result of changes in foreign currency exchange rates. Generally, we will consider hedging non-functional currency risks when the risks arise from agreements with third parties that involve the future payment or receipt of cash or other monetary items to the extent that we can reasonably predict the timing and amount of such payments or receipts and the payments or receipts are not otherwise hedged. In this regard, we have entered into foreign currency forward and option contracts to hedge certain of these risks. For additional information concerning our foreign currency forward and option contracts, see note 9 to the Consolidated Financial Statements.

We are also exposed to unfavorable and potentially volatile fluctuations of the U.S. dollar (our reporting currency) against the currencies of our operating subsidiaries when their respective financial statements are translated into U.S. dollars for inclusion in the Consolidated Financial Statements. Cumulative translation adjustments are recorded in foreign currency translation reserve as a separate component of equity. Any increase (decrease) in the value of the U.S. dollar against any foreign currency that is the functional currency of one of our operating subsidiaries will cause us to experience unrealized foreign currency translation losses (gains) with respect to amounts already invested in such foreign currencies. Accordingly, we may experience a negative impact on our comprehensive income or loss and equity with respect to our holdings solely as a result of FX. Our primary exposure to FX risk during the three months ended December 31, 2022 was to the euro and Swiss franc, as 55.1% and 43.6% of our reported revenue during the period was derived from subsidiaries whose functional currencies are the euro and Swiss franc, respectively. In addition, our reported operating results are impacted by changes in the exchange rates for other local currencies in Europe. We do not hedge against the risk that we may incur non-cash losses upon the translation of the

financial statements of our subsidiaries and affiliates into U.S. dollars. For additional information regarding certain currency instability risks, see *Management's Discussion and Analysis of Financial Condition and Results of Operations* above.

The relationships between the primary currencies of the countries in which we operate and the U.S. dollar, which is our reporting currency, are shown below, per one U.S. dollar:

	As of December 31,	
	2022	**2021**
Spot rates:		
Euro	0.9337	0.8782
Swiss franc	0.9219	0.9114
British pound sterling	0.8265	0.7388
Polish zloty	4.3686	4.0285

	Year ended December 31,	
	2022	**2021**
Average rates:		
Euro	0.9509	0.8455
Swiss franc	0.9548	0.9139
British pound sterling	0.8112	0.7269
Polish zloty	4.4555	3.8595

Inflation and Foreign Investment Risk

We are subject to inflationary pressures with respect to labor, programming and other costs. In this regard, inflation rates in the countries in which we operate have recently increased, and in many countries such increases have been significant. While we attempt to increase our revenue to offset increases in costs, there is no assurance that we will be able to do so. Therefore, costs could rise faster than associated revenue, thereby resulting in a negative impact on our operating results, cash flows and liquidity. The economic environment in the respective countries in which we operate is a function of government, economic, fiscal and monetary policies and various other factors beyond our control that could lead to inflation. We are unable to predict the extent that price levels might be impacted in future periods by the current state of the economies in the countries in which we operate.

Interest Rate Risks

We are exposed to changes in interest rates primarily as a result of our borrowing activities, which include fixed-rate and variable-rate borrowings by our borrowing groups. Our primary exposure to variable-rate debt is through the EURIBOR-indexed and LIBOR-indexed debt of our borrowing groups and the variable-rate debt of certain of our other subsidiaries.

In general, we enter into derivative instruments to protect against increases in the interest rates on our variable-rate debt. Accordingly, we have entered into various derivative transactions to manage exposure to increases in interest rates. We use interest rate derivative contracts to exchange, at specified intervals, the difference between fixed and variable interest rates calculated by reference to an agreed upon notional principal amount. From time to time, we also use interest rate cap, floor and collar agreements and swaptions that lock in a maximum interest rate if variable rates rise, but also allow our company to benefit, to a limited extent in the case of collars, from declines in market rates. Under our current guidelines, we use various interest rate derivative instruments to mitigate interest rate risk. The final maturity dates of our various portfolios of interest rate derivative instruments might, in some instances, fall short of the respective maturities of the underlying variable-rate debt. In this regard, we use judgment to determine the appropriate composition and maturity dates of our portfolios of interest rate derivative instruments, taking into account the relative costs and benefits of different maturity profiles in light of current and expected future market conditions, liquidity issues and other factors. For additional information concerning the impacts of these interest rate derivative instruments, see note 9 to the Consolidated Financial Statements.

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. Additionally, the European Money Markets Institute (the authority that administers EURIBOR) announced that measures would need to be undertaken by the end of 2021 to reform EURIBOR to ensure compliance with the E.U. Benchmarks Regulation. In November 2020, ICE Benchmark Administration

(the entity that administers LIBOR) announced its intention to continue publishing USD LIBOR rates until June 30, 2023, with the exception of the one-week and two-month rates which, along with all CHF and GBP LIBOR rates, it ceased to publish after December 31, 2021. Furthermore, in November 2022, the U.K. Financial Conduct Authority proposed that certain tenors of USD LIBOR would continue to be published on a synthetic basis until the end of September 2024. While this extension allows additional runway on existing contracts using USD LIBOR rates, companies are still encouraged to transition away from using USD LIBOR as soon as practicable and should not enter into new contracts that use USD LIBOR after 2021. The methodology for EURIBOR has been reformed and EURIBOR has been granted regulatory approval to continue to be used. Currently, there is no consensus amongst loan borrowers and investors for what rate(s) should replace USD LIBOR.

In October 2020, the ISDA launched the Fallback Supplement, which, as of January 25, 2021, amended the standard definitions for interest rate derivatives to incorporate fallbacks for derivatives linked to certain key IBORs. The ISDA also launched the Fallback Protocol, a protocol that enables market participants to incorporate these revisions into their legacy non-cleared derivatives with other counterparties that choose to adhere to the protocol. The fallbacks for a particular currency apply following a permanent cessation of the IBOR in that currency, or in the case of a LIBOR setting, that LIBOR setting becoming permanently unrepresentative, and are adjusted versions of the risk-free rates identified in each currency. Our credit agreements contain provisions that contemplate alternative calculations of the base rate applicable to our LIBOR-indexed and EURIBOR-indexed debt to the extent LIBOR or EURIBOR (as applicable) are not available, which alternative calculations we do not anticipate will be materially different from what would have been calculated under LIBOR or EURIBOR (as applicable). Additionally, no mandatory prepayment or redemption provisions would be triggered under our credit agreements in the event that either the LIBOR rate or the EURIBOR rate is not available. It is possible, however, that any new reference rate that applies to our LIBOR-indexed or EURIBOR-indexed debt could be different from any new reference rate that applies to our LIBOR-indexed or EURIBOR-indexed derivative instruments. For discontinued currencies and tenors, we expect to continue taking steps to mitigate the changes in these benchmark rates, including by amending existing credit agreements and adhering to the Fallback Protocol, where appropriate. We plan to continue to manage 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 our subsidiaries may incur significant associated costs.

Weighted Average Variable Interest Rate. At December 31, 2022 and 2021, the outstanding principal amount of our variable-rate indebtedness aggregated $9.3 billion and $9.6 billion, respectively, and the weighted average interest rate (including margin) on such variable-rate indebtedness was approximately 5.9% and 2.7%, respectively, excluding the effects of interest rate derivative contracts, deferred financing costs, original issue premiums or discounts and commitment fees, all of which affect our overall cost of borrowing. Assuming no change in the amount outstanding at December 31, 2022, and without giving effect to any interest rate derivative contracts, deferred financing costs, original issue premiums or discounts and commitment fees, a hypothetical 50 basis point (0.50%) increase (decrease) in our weighted average variable interest rate would increase (decrease) our annual consolidated interest expense and cash outflows by $46.5 million. As discussed above and in note 9 to the Consolidated Financial Statements, we use interest rate derivative contracts to manage our exposure to increases in variable interest rates. In this regard, increases in the fair value of these contracts generally would be expected to offset most of the economic impact of increases in the variable interest rates applicable to our indebtedness to the extent and during the period that principal amounts are matched with interest rate derivative contracts.

Counterparty Credit Risk

We are exposed to the risk that the counterparties to the derivative instruments, undrawn debt facilities and cash investments of our subsidiary borrowing groups 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 and undrawn debt facilities is spread across a relatively broad counterparty base of banks and financial institutions, however notwithstanding, given the size of our derivative portfolio, the default of certain counterparties could have a significant impact on our consolidated statements of profit or loss. Collateral is generally not posted by either party under the derivative instruments of our subsidiary borrowing groups. Most of our cash currently is invested in either (i) AAA-rated money market funds, including funds that invest in government obligations, or (ii) overnight deposits with banks having a minimum credit rating of A by Standard & Poor's or an equivalent rating by Moody's Investor Service. To date, neither the access to nor the value of our cash and cash equivalent balances have been adversely impacted by liquidity problems of financial institutions.

At December 31, 2022 and 2021, our exposure to counterparty credit risk included (i) cash and cash equivalent and restricted cash balances of $1.7 billion and $0.9 billion, respectively, (ii) aggregate undrawn debt facilities of $1.5 billion and $1.6 billion, respectively, and (iii) derivative assets with an aggregate fair value of $922.5 million and $57.8 million, respectively.

Each of our subsidiary borrowing groups 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 are limited to the derivative instruments governed by the relevant master agreement within each individual borrowing group and are independent of similar arrangements of our other subsidiary borrowing groups.

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.

While we currently have no specific concerns about the creditworthiness of any counterparty for which we have material credit risk exposures, we cannot rule out the possibility that one or more of our counterparties could fail or otherwise be unable to meet its obligations to us. Any such instance could have an adverse effect on our cash flows, results of operations, financial condition and/or liquidity.

Although we actively monitor the creditworthiness of our key vendors, the financial failure of a key vendor could disrupt our operations and have an adverse impact on our revenue and cash flows.

Sensitivity Information

Information concerning the sensitivity of the fair value of certain of our more significant derivative instruments to changes in market conditions is set forth below. The potential changes in fair value set forth below do not include any amounts associated with the remeasurement of the derivative asset or liability into the applicable functional currency. For additional information, see notes 9 and 10 to the Consolidated Financial Statements.

UPC Holding Cross-currency and Interest Rate Derivative Contracts

Holding all other factors constant, at December 31, 2022:

(i) an instantaneous increase (decrease) of 10% in the value of the Swiss franc relative to the U.S. dollar would have decreased (increased) the aggregate fair value of the UPC Holding cross-currency and interest rate derivative contracts by approximately €414 million ($444 million);

(ii) an instantaneous increase (decrease) of 10% in the value of the Swiss franc relative to the euro would have decreased (increased) the aggregate fair value of the UPC Holding cross-currency and interest rate derivative contracts by approximately €325 million ($348 million); and

(iii) an instantaneous increase (decrease) in the relevant base rate of 50 basis points (0.50%) would have decreased (increased) the aggregate fair value of the UPC Holding cross-currency and interest rate derivative contracts by approximately €99 million ($106 million).

Telenet Cross-currency and Interest Rate Derivative Contracts

Holding all other factors constant, at December 31, 2022:

(i) an instantaneous increase (decrease) of 10% in the value of the euro relative to the U.S. dollar would have decreased (increased) the aggregate fair value of the Telenet cross-currency and interest rate derivative contracts by approximately €297 million ($318 million); and

(ii) an instantaneous increase (decrease) in the relevant base rate of 50 basis points (0.50%) would have decreased (increased) the aggregate fair value of the Telenet cross-currency and interest rate derivative contracts by approximately €72 million ($78 million).

Projected Cash Flows Associated with Derivative Instruments

The following table provides information regarding the projected cash flows associated with our derivative instruments. The U.S. dollar equivalents presented below are based on interest rate projections and exchange rates as of December 31, 2022. These amounts are presented for illustrative purposes only and will likely differ from the actual cash payments or receipts required in future periods. For additional information regarding our derivative instruments, see note 9 to the Consolidated Financial Statements. For information concerning the counterparty credit risk associated with our derivative instruments, see the discussion under *Counterparty Credit Risk* above.

	Payments (receipts) due during:						
	2023	**2024**	**2025**	**2026**	**2027**	**Thereafter**	**Total**
				in millions			
Projected derivative cash payments (receipts), net:							
Interest-related (a)	$ (158.6)	$ (379.6)	$ (313.7)	$ (275.3)	$ (268.6)	$ (297.9)	$ (1,693.7)
Principal-related (b)	62.2	—	63.5	53.0	—	(54.2)	124.5
Other (c)	6.2	0.4	0.3	—	—	—	6.9
Total	$ (90.2)	$ (379.2)	$ (249.9)	$ (222.3)	$ (268.6)	$ (352.1)	$ (1,562.3)

____

(a) Includes (i) the cash flows of our interest rate cap, floor and swap contracts and (ii) 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.

(c) Includes amounts related to foreign currency forward contracts.

RISK FACTORS

In addition to the other information contained in this annual report, you should consider the following risk factors in evaluating our results of operations, financial condition, business and operations or an investment in the shares of our company.

The risk factors described in this section have been separated into four groups:

- risks that relate to the competition we or our affiliates face and the technology used in our businesses;
- risks that relate to operating in overseas markets and being subject to foreign regulation;
- risks that relate to certain financial matters; and
- other risks, including risks that, among other things, relate to the obstacles that may be faced by anyone who may seek to acquire us.

Although we describe below and elsewhere in this annual report the risks we consider to be the most material, there may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that also could have material adverse effects on our results of operations, financial condition, business or operations in the future. In addition, past financial performance may not be a reliable indicator of future performance and historical trends should not be used to anticipate results or trends in future periods.

If any of the events described below, individually or in combination, were to occur, our businesses, prospects, financial condition, results of operations and/or cash flows could be materially adversely affected.

Factors Relating to Competition and Technology

We operate in increasingly competitive markets, and there is a risk that we will not be able to effectively compete with other service providers. The markets for cable television, broadband internet, telephony and mobile services are highly competitive. In the provision of video services, we face competition from free-to-air and digital terrestrial television (**DTT**) broadcasters, video provided via satellite platforms, networks using digital subscriber lines (**DSL**), very high-speed DSL technology or vectoring technology, multi-channel multi-point distribution system operators, FTTx networks, OTT video service providers, and, in some countries where parts of our systems are overbuilt, cable networks, among others. Our operating businesses are facing increasing competition from video services provided by, or over the networks of, incumbent telecommunications operators and other service providers. As the availability and speed of broadband internet increases, we also face competition from OTT video content providers utilizing our or our competitors' high-speed internet connections. In the provision of telephony and broadband internet services, we are experiencing increasing competition from the incumbent telecommunications operators and other service providers in each country in which we operate, including for both retail and wholesale products and services, as well as providers of mobile voice and data. The incumbent telecommunications operators typically dominate the market for these services and have the advantage of nationwide networks and greater resources than we have to devote to the provision of these services. Many of the incumbent operators offer double-play, triple-play and quadruple-play bundles of services. In many countries, we also compete with other operators using local loop unbundling to provide these services, other facilities-based operators and wireless providers. Developments in DSL as well as investments into FTTx technology by the incumbent telecommunications operators and alternative providers have improved the attractiveness of our competitors' products and services and strengthened their competitive position. Developments in wireless technologies, such as 5G and fixed wireless access, are creating additional competitive challenges.

In some of our markets, national and local government agencies may seek to become involved, either directly or indirectly, in the establishment of FTTx networks, DTT systems or other communications systems. We intend to pursue available options to restrict such involvement or to ensure that such involvement is on commercially reasonable terms. There can be no assurance, however, that we will be successful in these pursuits. As a result, we may face competition from entities not requiring a normal commercial return on their investments. In addition, we may face more vigorous competition than would have been the case if there were no government involvement.

We expect the level and intensity of competition to continue to increase from both existing competitors and the influx of new market entrants as a result of changes in the regulatory framework of the industries in which we operate, as well as strategic alliances and cooperative relationships among industry participants. Increased competition could result in increased customer churn, reductions of customer acquisition rates for some products and services and significant price and promotional competition in our markets. In combination with difficult economic environments, these competitive pressures could adversely impact our ability to increase or, in certain cases, maintain the revenue, ARPU, RGUs, mobile subscribers, Adjusted EBITDA

(as defined in note 19 to the Consolidated Financial Statements), Adjusted EBITDA margins and liquidity of our operating segments.

Changes in technology may limit the competitiveness of and demand for our services. Technology in the video, telecommunications and data services industries is changing rapidly, including advances in current technologies and the emergence of new technologies. New technologies, products and services may impact consumer behavior and therefore demand for our products and services. The ability to anticipate changes in technology and consumer tastes and to develop and introduce new and enhanced products and services on a timely basis will affect our ability to continue to grow, increase our revenue and number of subscribers and remain competitive. New products and services, once marketed, may not meet consumer expectations or demand, can be subject to delays in development or may fail to operate as intended. A lack of market acceptance of new products and services that we may offer, or the development of significant competitive products or services by others, could have a material adverse impact on our revenue and Adjusted EBITDA.

Our significant property, equipment and intangible asset additions may not generate a positive return. Significant additions to our property, equipment and intangible assets are, or in the future may be, required to add customers to our networks and to upgrade or expand our broadband communications networks and upgrade CPE to enhance our service offerings and improve the customer experience. Additions to our property, equipment and intangible assets, which are currently underway, require significant capital expenditures for equipment and associated labor costs to build out and/or upgrade our networks as well as for related CPE. Additionally, significant competition, the introduction of new technologies, the expansion of existing technologies, such as FTTx and advanced DSL technologies, the impact of natural disasters, or adverse regulatory developments could cause us to decide to undertake previously unplanned builds or upgrades of our networks and CPE.

No assurance can be given that any newbuilds, rebuilds, upgrades or extensions of our network will increase penetration rates, increase average monthly subscription revenue per average cable RGU or mobile subscriber, as applicable, or otherwise generate positive returns as anticipated, or that we will have adequate capital available to finance such newbuilds, rebuilds, upgrades or extensions. Additionally, costs related to our property, equipment and intangible asset additions could end up being greater than originally anticipated or planned. If this is the case, we may require additional financing sooner than anticipated, we may have to divert funding from other planned projects or we may have to delay or abandon some or all of our development and expansion plans or otherwise forego market opportunities. Additional financing may not be available on favorable terms, if at all, and our ability to incur additional debt will be limited by our debt agreements. If we are unable to, or elect not to, pay for costs associated with adding new customers, expanding, extending or upgrading our networks or making our other planned or unplanned additions to our property, equipment and intangible assets, or are delayed in making such investments, our growth could be limited and our competitive position could be harmed.

We depend almost exclusively on our relationships with third-party programming providers and broadcasters for programming content, and a failure to acquire a wide selection of popular programming on acceptable terms could adversely affect our business. The success of our video subscription business depends, in large part, on our ability to provide a wide selection of popular programming to our subscribers. In general, we do not produce our own content and we depend on our agreements, relationships and cooperation with public and private broadcasters, rights holders and collective rights associations to obtain such content. If we fail to obtain a diverse array of popular programming for our pay television services, including a sufficient selection of HD channels as well as non-linear content (such as a selection of attractive VoD content) and rights for ancillary services such as DVR and catch up or 'Replay' services, on satisfactory terms, we may not be able to offer a compelling video product to our customers at a price they are willing to pay. Additionally, we are frequently negotiating and renegotiating programming agreements and our annual costs for programming can vary. There can be no assurance that we will be able to renegotiate or renew the terms of our programming agreements on acceptable terms or at all. There has also been a rise in the number of direct-to-consumer offerings from content owners which impacts negotiations and the content, rights available and restrictions imposed on us. Programming and copyright costs represent a significant portion of our operating costs and are subject to price rises in future periods due to various factors, including (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, including as a result of inflationary pressures.

If we are unable to obtain or retain attractively priced competitive content, demand for our existing and future video services could decrease, thereby limiting our ability to attract new customers, maintain existing customers and/or migrate customers from lower-tier programming to higher-tier programming, thereby inhibiting our ability to execute our business plans. Furthermore, we may be placed at a competitive disadvantage if certain of our competitors obtain exclusive programming rights, particularly with respect to popular sports and movie programming, and as certain players in the OTT market, for example Netflix, Amazon and Disney, increasingly produce their own exclusive content.

We depend on third-party suppliers and licensors to supply necessary equipment, software and certain services required for our businesses. We rely on third-party vendors for the equipment, software and services that we require in order to provide services to our customers. Our suppliers often conduct business worldwide and their ability to meet our needs is subject to various risks, including political and economic instability, natural calamities, interruptions in transportation or supply chain systems, terrorism and labor issues. As a result, we may not be able to obtain the equipment, software and services required for our businesses on a timely basis or on satisfactory terms. Any shortfall in CPE could lead to delays in completing extensions or upgrades to our networks and in connecting customers to our services and, accordingly, could adversely impact our ability to maintain or increase our RGUs, revenue and cash flows. Also, if demand exceeds the suppliers' and licensors' capacity or if they experience financial difficulties, the ability of our businesses to provide some services may be materially adversely affected, which in turn could affect our businesses' ability to attract and retain customers. We have experienced certain business disruptions due to the worldwide silicon shortage, which has increased the delivery lead times and pricing of certain of our key components. We cannot predict how long such shortages will continue or what future disruptions to our business. Although we actively monitor the creditworthiness of our key third-party suppliers and licensors, the financial failure of a key third-party supplier or licensor could disrupt our operations and have an adverse impact on our revenue and cash flows. We rely upon intellectual property that is owned or licensed by us to use various technologies, conduct our operations and sell our products and services. Legal challenges could be made against our use of our or our licensed intellectual property rights (such as trademarks, patents and trade secrets) and we may be required to enter into licensing arrangements on unfavorable terms, incur monetary damages or be enjoined from use of the intellectual property rights in question**.**

Spectrum cost and availability and regulation may adversely affect our business, financial condition and operating results. As we continue to enhance the quality of our services in certain geographic areas and deploy new technologies, including 5G, we may need to acquire additional spectrum in the future. As a result, we will continue to actively seek to make additional investment in spectrum, which could be significant.

The continued interest in, and acquisition of, spectrum by existing carriers and others may reduce our ability to acquire, and increase the acquisition cost of, spectrum in the secondary market or negatively impact our ability to gain access to spectrum through other means, including government auctions. Our return on investment in spectrum depends on our ability to attract additional customers and to provide additional services and usage to existing customers. Additionally, applicable regulatory bodies may not be able to provide sufficient additional spectrum to auction. We may also be unable to secure the spectrum necessary to maintain or enhance our competitive position in auctions or in the secondary market, on favorable terms or at all.

Certain regulatory bodies may impose conditions on the acquisition or use of new wireless broadband mobile spectrum that may negatively impact our ability to obtain spectrum economically or in appropriate configurations or coverage areas.

If we cannot acquire needed spectrum, if competitors acquire spectrum that allows them to provide competitive services or if we cannot deploy services over acquired spectrum on a timely basis without burdensome conditions, at reasonable costs, or while maintaining network quality levels, our ability to attract and retain customers and our business, financial condition and operating results could be materially adversely affected.

Certain of our businesses that offer mobile telephony and data services rely on the radio access networks of third-party wireless network providers to carry our mobile communications traffic. Our services to mobile customers in Ireland rely on the use of an MVNO arrangement, currently with Three (Hutchison), whereby we utilize the radio access networks of a third-party wireless network provider to carry our mobile communications traffic. If our MVNO arrangement is terminated, or if Three (Hutchison) fails to provide the services required under our MVNO arrangement, or if it fails to deploy and maintain its network, and we are unable to find a replacement network operator on a timely and commercially reasonable basis or at all, we could be prevented from continuing the mobile services relying on such MVNO arrangement. Additionally, as our MVNO arrangement comes to term, we may not be able to renegotiate renewal or replacement MVNO arrangement on the same or more favorable terms.

Failure in our or third-party technology or telecommunications systems, leakage of sensitive customer data, or security breaches could significantly disrupt our operations, reduce our customer base and result in fines, litigation or lost revenue. Our success depends, in part, on the continued and uninterrupted performance of our information technology and network systems, including internet sites, data hosting and processing facilities and other hardware, software and technical applications and platforms, as well as our customer service centers. Some of these are managed, hosted, provided or used by third-party service providers or their vendors, to assist in conducting our business. In addition, the hardware supporting a large number of critical systems for our cable network in a particular country or geographic region is housed in a relatively small number of locations. Our and our third-party service providers' systems and equipment (including our routers and set-top boxes) are vulnerable to damage or security breach from a variety of sources, including telecommunications failures, power loss (such as blackouts or brownouts), malicious human acts, security flaws and natural disaster or extreme weather events (including

heatwaves, large storms and floods, whether or not arising from short-term or long-term changes in weather patterns). Moreover, despite security measures, unauthorized parties may gain access to or disrupt our or our third-party service providers' servers, systems and equipment by, among other things, hacking into our servers, systems and equipment or those of our third-party service providers through fraud, computer viruses, worms, phishing, physical or electronic break-ins or burglaries, or errors by our or our third-party service providers' employees. We and our third-party service providers may not be able to anticipate or respond in an adequate and timely manner to attempts to obtain authorized access to, disable or degrade our or our third-party service providers' systems because the techniques for doing so change frequently, are increasingly complex and sophisticated and are difficult to detect for periods of time. In addition, as discussed further below, the security measures and procedures we and our third-party service providers have in place to protect personal data and other information may not be sufficient to counter all data security breaches, cyber-attacks or system failures. In some cases, mitigation efforts may depend on third parties who may not deliver products or services that meet the required contractual standards or whose hardware, software or network services may be subject to error, defect, delay or outage.

Through our operations, sales and marketing activities, we collect and store certain personal information related to our customers. This may include phone numbers, drivers license numbers, contact preferences, personal information stored on electronic devices and payment information, including credit and debit card data. We also gather and retain information about employees in the normal course of business. In certain circumstances, where it is lawful to do so, we may share information about such persons with third-party service providers that assist with certain aspects of our business. Unauthorized parties may attempt to gain access to such data and information using the same methods described in the prior paragraph. As a result, data and information we gather could be subject to misappropriation, misuse, leakage, falsification or accidental release or loss of information maintained in our information technology systems and networks and those of our third-party service providers, including customer and personnel data. As a result of the increasing awareness concerning the importance of safeguarding personal information, the potential misuse of such information and legislation that has been adopted or is being considered across all of our markets regarding the protection, privacy and security of personal information, information-related risks are increasing, particularly for businesses like ours that handle a large amount of personal data. Failure to comply with these data protection laws may result in, among other consequences, fines, litigation or regulatory actions by local, state, federal or non-U.S. authorities.

Despite the precautions we have taken, unanticipated problems affecting our systems and equipment could cause business disruptions such as failures in our information technology systems, disruption in the transmission of signals over our networks, unauthorized access to the data and information we gather or similar problems. Further, although we devote significant resources to our cybersecurity programs and have implemented security measures to protect our systems and data, and to prevent, detect and respond to data security incidents, there can be no assurance that our efforts will prevent these threats. Any disruptive situation that causes loss, misappropriation, misuse or leakage of data could damage our reputation and the credibility of our operations and could subject us to potential liability, including litigation or other legal actions against us, the imposition of penalties, fines, fees or liabilities, which may not be covered by our insurance policies, and lost customers or revenue. While we maintain cyber liability insurance that provides both third-party liability and first-party liability insurance coverage, such insurance may not be sufficient to protect against all of our businesses' losses from any future disruptions or breaches of their systems or other events as described above. Also, a cybersecurity breach and the changing cybersecurity landscape could require us to devote significant management resources to address the problems associated with the breach and to expend significant additional resources to upgrade further the security measures we employ to protect customer, employee and other personal information against cyber-attacks and other wrongful attempts to access such information, which could result in a disruption of our operations. This includes additional infrastructure capacity spending to mitigate any system degradation and the reallocation of resources from development activities. To date, other than the non-permitted access of one of Virgin Media's databases in February of 2020, we have not been subject to cyberattacks or network disruptions that, individually or in the aggregate, have been material to our operations or financial condition. Although we have not detected another material security breach or cybersecurity incident to date, we have been the target of events of this nature and expect to be subject to similar attacks in the future.

We and our third-party vendors rely on the availability of raw materials used to produce our CPE. If the materials become scarce or our supply chains for obtaining such materials are disrupted, we might be forced to expend significant resources to obtain replacement materials or experience significant delays in delivering certain CPE to our customers, which could damage our reputation, credibility and business and have a negative impact on our revenue or margins.

Factors Relating to Operations and Regulation

Our businesses are conducted almost exclusively outside of the U.S., which gives rise to numerous operational risks. Our businesses operate almost exclusively in countries outside the U.S. and are subject to the following inherent risks:

- fluctuations in foreign currency exchange rates;
- difficulties in staffing and managing international operations;
- potentially adverse tax consequences;
- export and import restrictions, custom duties, tariffs and other trade barriers;
- increases in taxes and governmental fees;
- economic and political instability; and
- changes in foreign and domestic laws and policies that govern operations of foreign-based companies.

Operational risks that we may experience in certain countries include disruptions of services or loss of property or equipment that are critical to overseas businesses due to expropriation, nationalization, war, insurrection, terrorism or general social or political unrest.

We are exposed to foreign currency exchange rate risk. We are exposed to foreign currency exchange rate risk with respect to our consolidated debt in situations where our debt is denominated in a currency other than the functional currency of the operations whose cash flows support our ability to repay or refinance such debt. Although we generally match the denomination of our and our subsidiaries' borrowings with the functional currency of the operations that are supporting the respective borrowings, market conditions or other factors may cause us to enter into borrowing arrangements that are not denominated in the functional currency of the underlying operations (unmatched debt). In these cases, our policy is 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, 2022, substantially all of our debt was either directly or synthetically matched to the applicable functional currencies of the underlying operations.

We are also exposed to foreign currency exchange rate risk with respect to our cash and cash equivalents and in respect of investments held within separately managed accounts. A substantial portion of our cash and cash equivalents is held in U.S. dollars, but we hold balances in other currencies reflecting the operational and strategic needs of the company. The investments held in our separately managed accounts are generally in U.S. dollars, and any instruments denominated in a foreign currency are generally hedged back to the U.S. dollar.

In addition, we are exposed to foreign currency risk to the extent that we enter into transactions denominated in currencies other than our or our subsidiaries' respective functional currencies (non-functional currency risk), such as equipment purchases, programming contracts, notes payable and notes receivable (including intercompany amounts). Changes in exchange rates with respect to amounts recorded in our consolidated statements of financial position related to these items will result in unrealized (based upon period-end exchange rates) or realized foreign currency transaction gains and losses upon settlement of the transactions. Moreover, to the extent that our revenue, costs and expenses are denominated in currencies other than our respective functional currencies, we will experience fluctuations in our revenue, costs and expenses solely as a result of changes in foreign currency exchange rates. Generally, we will consider hedging non-functional currency risks when the risks arise from agreements with third parties that involve the future payment or receipt of cash or other monetary items to the extent that we can reasonably predict the timing and amount of such payments or receipts and the payments or receipts are not otherwise hedged. In this regard, we have entered into foreign currency forward contracts to hedge certain of these risks. For additional information concerning our foreign currency forward contracts, see note 9 to the Consolidated Financial Statements.

We are also exposed to unfavorable and potentially volatile fluctuations of the U.S. dollar (our reporting currency) against the currencies of our operating subsidiaries when their respective financial statements are translated into U.S. dollars for inclusion in the Consolidated Financial Statements. Cumulative translation adjustments are recorded in foreign currency translation reserve as a separate component of equity. Any increase (decrease) in the value of the U.S. dollar against any foreign currency that is the functional currency of one of our operating subsidiaries will cause us to experience unrealized foreign currency translation losses (gains) with respect to amounts already invested in such foreign currencies. Accordingly, we may experience a negative impact on our comprehensive income or loss and equity with respect to our holdings solely as a result of foreign currency translation. Our primary exposure to foreign currency translation risk during the three months ended December 31, 2022 was to the euro and Swiss franc, as 55.1% and 43.6% of our reported revenue during the period was derived from subsidiaries whose functional currencies are the euro and Swiss franc, respectively. In addition, our reported operating

results are impacted by changes in the exchange rates for other local currencies in Europe. We do not hedge against the risk that we may incur non-cash losses upon the translation of the financial statements of our subsidiaries and affiliates into U.S. dollars.

Our businesses are subject to risks of adverse regulation. Our businesses are subject to the unique regulatory regimes of the countries in which they operate. Video distribution, broadband internet, telephony and mobile services are subject to licensing or registration eligibility rules and regulations, which vary by country. Countries in which we operate may adopt laws and regulations regarding electronic commerce, which could dampen the growth of the internet services being offered and developed by our businesses. In a number of countries, our ability to increase prices for, or change our services, including the programming packages we offer is limited by regulation or conditions imposed by competition authorities or is subject to review by regulatory authorities or is subject to termination rights of customers. More significantly, regulatory authorities may require us, particularly if we are deemed to possess SMP or there are significant economic or physical replicability barriers, to grant third parties access to our networks, facilities or services to distribute their own services or resell our services to end customers. Consequently, our businesses must adapt their ownership and organizational structures as well as their pricing and service offerings to satisfy the rules and regulations to which they are subject. A failure to comply with applicable rules and regulations could result in penalties, restrictions on our business, loss of required licenses or other adverse conditions.

Adverse changes in rules and regulations could:

- impair our ability to use our networks in ways that would generate maximum revenue and Adjusted EBITDA;
- create a shortage of capacity on our networks, which could limit the types and variety of services we seek to provide our customers;
- impact our ability to access spectrum for our mobile services;
- strengthen our competitors by granting them access and lowering their costs to enter into our markets; and
- significantly and adversely impact our results of operations.

Businesses, including ours, that offer multiple services, such as video distribution as well as internet, telephony, and/or mobile services, or that are vertically integrated and offer both video distribution and programming content, often face close regulatory scrutiny from competition authorities. This is particularly the case with respect to any proposed business combinations, which often require clearance from the European Commission or national competition authorities, which can block, impose conditions on, or delay, an acquisition, thus possibly hampering our opportunities for growth. Additional scrutiny is also imposed under the national foreign direct investment screening regimes recently adopted by the U.K. and some E.U. Member States, which allow national governments to review and impose conditions on certain transactions involving critical infrastructures such as telecommunications. In the event conditions are imposed and we fail to meet them in a timely manner, the relevant authority or governments may impose fines and, if in connection with a transaction, may require restorative measures, such as a disposition of assets or divestiture of operations.

For information on certain other regulatory developments that could adversely impact our results of operations in future periods, see *Legal and Regulatory Proceedings and Other Contingencies* in note 21 to the Consolidated Financial Statements.

New and existing legislation, and interpretations thereof, may significantly alter the regulatory regimes applicable to us, which could adversely affect our competitive position and profitability, and we may become subject to more extensive regulation, particularly if we are deemed to possess significant market power in any of the markets in which we operate. Significant changes to the existing regulatory regimes applicable to the provision of video, telephony, internet and mobile services have been and are still being introduced. For example, in the E.U., the European Electronic Communications Code is the primary source of communications regulation affecting our E.U. businesses, including access, user and privacy rights, video must-carry services and our competitive activities. The U.K. and Switzerland have systems that largely reflect the principles of the E.U. In addition, we are subject to regular review by national regulatory authorities in the E.U. and the U.K. concerning whether we exhibit SMP. A finding of SMP can result in our company becoming subject to open access, pricing and other requirements that could potentially advantage our competitors. This has resulted, for example, in obligations with respect to call termination for our telephony business in Europe and video and broadband internet access obligations in Belgium.

If any laws, regulations or rules are enacted or reinterpreted so as to expand the regulation of our products and services or our disclosure obligations, they could affect our operations or require significant expenditures. For example, certain of our business operations will become subject to corporate responsibility reporting obligations pursuant to the Corporate Sustainability Reporting Directive in the coming years. We cannot predict future developments in these areas, and any changes to the regulatory framework for our products and services or our disclosure obligations could have a negative impact on our business and results of operations.

The U.K.'s departure from the E.U. could have a material adverse effect on our business, financial condition, results of operations or liquidity. The U.K. formally exited the E.U. on January 31, 2020, and on December 24, 2020, entered into the "Trade and Cooperation Agreement", referred to as the "**E.U.-U.K. Agreement**". Examples of the potential impact Brexit could have on our business, financial condition or results of operations include:

- changes in foreign currency exchange rates and disruptions in the capital markets. For example, a sustained period of weakness in the British pound sterling or the euro could have an adverse impact on our liquidity, including our ability to fund repurchases of our equity securities and other U.S. dollar-denominated liquidity requirements;
- shortages of labor necessary to conduct our business;
- disruption to our U.K. supply chain and related increased cost of supplies;
- a weakened U.K. economy resulting in decreased consumer demand for our products and services in the U.K.;
- legal uncertainty, increased compliance costs and potentially divergent national laws and regulations as the U.K. determines which E.U. laws and directives to replace or replicate, or where previously implemented by enactment of U.K. laws or regulations, to retain, amend or repeal; and
- various geopolitical forces may impact the global economy and our business, including, for example, other E.U. member states (in particular those member states where we have operations) proposing referendums to, or electing to, exit the E.U.

We cannot be certain that we will be successful with respect to acquisitions, dispositions, joint ventures, partnerships or other similar transactions, or that we will achieve the anticipated benefits thereof. Historically, our businesses have grown, in part, through selective acquisitions that enabled them to take advantage of existing networks, local service offerings and region-specific management expertise, and we have also taken advantage of attractive opportunities to sell select businesses and partner with others. We expect to seek to continue improving our company through attractive acquisitions, dispositions, joint ventures, partnerships or other similar transactions in selected markets, such as the Sunrise Acquisition in November 2020, the sale of UPC Poland in April 2022 and the Telenet Tower Sale in June 2022, as well as the formations of the VMO2 JV in June 2021, the AtlasEdge JV in September 2021 and the nexfibre JV in December 2022. Our ability to complete any transaction may be limited by many factors, including government regulation, availability of financing, our or our counterparty's debt covenants, the prevalence of complex ownership structures among potential targets, acquirers, joint ventures or partners, disapproval by shareholders of potential targets or acquirers, and competition from other potential acquirers, including private equity funds. Even if we are successful in completing such transactions, integration and separation activities may present significant costs and challenges. We cannot be assured that we will be successful with respect to acquisitions, dispositions, joint ventures, partnerships or other similar transactions or realizing the anticipated benefits thereof.

In addition, we anticipate that most, if not all, companies acquired by us will be located outside the U.S. Foreign companies may not have disclosure controls and procedures or internal controls over financial reporting that are as thorough or effective as those required by U.S. securities laws and applicable accounting rules. While we intend to conduct appropriate due diligence and to implement appropriate controls and procedures as we integrate acquired companies, we may not be able to certify as to the effectiveness of these companies' disclosure controls and procedures or internal controls over financial reporting until we have fully integrated them.

The expected synergies and benefits from our acquisitions and joint ventures may not be realized in the amounts anticipated or may not be realized within the expected time frame, and risks associated with the foregoing may also result from the extended delay in the integration of the companies. Our ability to realize the anticipated benefits of our acquisitions and joint ventures will depend, to a large extent, on our ability to integrate our businesses and the acquired or joint venture company's business in a manner that facilitates growth opportunities and achieves the projected cost savings. In addition, some of the anticipated synergies are not expected to occur for some time following the completion of such acquisitions and joint ventures and will require substantial capital expenditures before realizing some of those synergies.

The COVID-19 pandemic may delay, reduce or eliminate some of our anticipated synergies and other benefits, including a delay in the integration of, or inability to integrate, the business that we acquire or partner with. Even if we are able to integrate successfully, the anticipated benefits of such transactions, including the expected synergies and network benefits, may not be realized fully or at all or may take longer to realize than expected.

We have incurred substantial expenses as a result of completing our various acquisitions and joint ventures. We expect that substantial additional expenses will need to be incurred in order to integrate the businesses, operations, policies, and procedures. While we have assumed that a certain level of transaction-related expenses will be incurred, factors beyond our

control could affect the total amount or the timing of these expenses. Many of the expenses that will be incurred, by their nature, are difficult to estimate accurately. These expenses could exceed the costs historically borne by us and offset, in whole or in part, the expected synergies.

Our integration efforts may not be executed successfully, or such integration may be more difficult, time consuming or costly than expected. Operating costs, customer loss and business disruption, including maintaining relationships with employees, customers, suppliers or vendors, may be greater than expected. The combination of independent businesses is complex, costly and time-consuming, and may divert significant management attention and resources. This process may disrupt our business or otherwise impact our ability to compete. The overall combination of our and the businesses of those companies that we acquire or partner with may also result in material unanticipated problems, expenses, liabilities, competitive responses and impacts and loss of customers and other business relationships. The difficulties of combining the operations of the companies include, among others:

- diversion of management attention to integration matters;
- difficulties in integrating operations and systems, including intellectual property and communications systems, administrative and information technology infrastructure, and supplier and vendor arrangements, including as a result of the COVID-19 pandemic;
- challenges in conforming standards, controls, procedures and accounting and other policies;
- alignment of key performance measurements may result in a greater need to communicate and manage clear expectations while we work to integrate and align policies and practices;
- difficulties in integrating employees;
- the transition of management to the combined company management team, and the need to address possible differences in corporate cultures, management philosophies, and compensation structures;
- challenges in retaining existing customers and obtaining new customers;
- compliance with government regulations;
- known or potential unknown liabilities of the acquired businesses that are larger than expected; and
- other potential adverse consequences and unforeseen increased expenses or liabilities associated with the applicable transaction.

Additionally, uncertainties over the integration process could cause customers, suppliers, distributors, dealers, retailers and others to seek to change or cancel our existing business relationships or to refuse to renew existing relationships. Suppliers, distributors and content and application providers may also delay or cease developing new products for us that are necessary for the operations of our business due to uncertainties or lack of available resources. Competitors may also target our existing customers by highlighting potential uncertainties and integration difficulties.

Some of these factors are outside our control, and any one of them could result in lower revenues, higher costs and diversion of management time and energy, which could adversely impact our business, financial condition and operating results. In addition, even if the integration is successful, the full benefits of our acquisitions and partnerships including, among others, the synergies, cost savings or sales or growth opportunities may not be realized. As a result, it cannot be assured that we will realize the full benefits expected from such transactions within the anticipated time frames or at all.

Certain operations are conducted by joint ventures that we cannot operate solely for our benefit. Certain of our operations, particularly the VMO2 JV in the U.K. and the VodafoneZiggo JV in the Netherlands, are conducted through joint ventures or partnerships. We share ownership and management of these joint venture with one or more parties who may or may not have the same goals, strategies, priorities or resources as we do. In general, joint ventures are intended to be operated for the benefit of all co-owners, rather than for our exclusive benefit. Operating a business as a joint venture often requires additional organizational formalities as well as time-consuming procedures for sharing information, accounting and making decisions. In certain cases, our joint venture partners must agree in order for the applicable joint venture to take certain actions. Our inability to take unilateral action that we believe is in our best interests may have an adverse effect on the financial performance of the joint venture and the return on our investment. In joint ventures, we believe our relationship with our co-owners is an important factor to the success of the joint venture, and if a co-owner changes, our relationship may be adversely affected. In addition, the benefits from a successful joint venture are shared among the co-owners, so that we do not receive all the benefits from our successful joint ventures.

Our interests in the VodafoneZiggo JV and the VMO2 JV are held pursuant to Shareholders Agreements that contain provisions relating to governance as well as transfer and exit rights, which, depending on the circumstances, may not be in the best interest of our company. Our noncontrolling interests in the VodafoneZiggo JV and the VMO2 JV are held pursuant to shareholders' agreements (each a **Shareholders Agreement**), which provides the terms of the governance of the VodafoneZiggo JV and the VMO2 JV, as applicable, including among others, decision-making process, information access, dividend policy and non-compete provisions. These provisions may prevent the VodafoneZiggo JV or the VMO2 JV, as applicable from making decisions or taking actions that would protect or advance the interests of our company, and could even result in the VodafoneZiggo JV or the VMO2 JV, as applicable, making decisions or taking actions that adversely impact our company. Further, our ability to access the cash of the VodafoneZiggo JV or the VMO2 JV, as applicable, pursuant to the dividend policy contained in the Shareholders Agreements may be restricted in certain circumstances. The Shareholders Agreements also provide for restrictions on the transfer of interests in the VodafoneZiggo JV and the VMO2 JV, as applicable, which could adversely affect our ability to sell our interest in the VodafoneZiggo JV or the VMO2 JV, as applicable, and/or the prices at which our interest may be sold, as well as certain exit arrangements, which could force us to sell our interest. For additional information on the VodafoneZiggo JV or the VMO2 JV and their respective Shareholders Agreement, see note 8 to the Consolidated Financial Statements.

We may have exposure to additional tax liabilities. We are subject to income taxes as well as non-income based taxes, such as VAT in the U.K., the U.S. and many other jurisdictions around the world. In addition, most tax jurisdictions that we operate in have complex and subjective rules regarding the valuation of intercompany services, cross-border payments between affiliated companies and the related effects on income tax, VAT and transfer tax. Significant judgment is required in determining our worldwide provision for income taxes and other tax liabilities. In the ordinary course of our business, there are many transactions and calculations where the ultimate tax determination is uncertain. We are regularly under audit by tax authorities in many of the jurisdictions in which we operate. These audits may lead to disputes with tax authorities which may result in litigation. Although we believe that our tax estimates are reasonable, any material differences as a result of final determinations of tax audits or tax disputes could have an adverse effect on our financial position and results of operations in the period or periods for which such determination is made.

We are subject to changing tax laws, treaties and regulations in and between countries in which we operate, including treaties between and among the U.K., the U.S. and many other jurisdictions in which we have a presence. Also, various income tax proposals in the jurisdictions in which we operate could result in changes to the existing laws on which our deferred taxes are calculated. A change in these tax laws, treaties or regulations, or in the interpretation thereof, could result in a materially higher income or non-income tax expense, and any such material changes could cause a material change in our effective tax rate. In this regard, there have been significant changes or proposed changes to the tax laws in numerous jurisdictions in which we operate, the impacts of which have been reflected accordingly in our financial statements.

Further changes in the tax laws of the foreign jurisdictions in which we operate could arise as a result of the Base Erosion and Profit Shifting (**BEPS**) project undertaken by the Organizational Economic Cooperation and Development (**OECD**). The OECD represents a coalition of member countries that encompass most of the jurisdictions in which we operate. In October 2021, the OECD announced the OECD/G20 Inclusive Framework of Base Erosion and Profit Shifting, which agreed to a two-pillar solution to reform international taxation. Pillar One provides a mechanism to align taxing rights more closely with local market engagement; generally, where people or consumers are located. Pillar Two establishes a global minimum tax regime through a series of interlocking rules that would apply when a country's income tax rate is below 15%. In most jurisdictions in which we operate, it is anticipated that the Pillar Two rules will be enacted by the end of 2023 with the income inclusion rule applying to accounting periods beginning on or after December 31, 2023 and the undertaxed profits rule taking effect for years beginning from December 31, 2024. It is possible that jurisdictions in which we do business could react to the BEPS initiatives or their own concerns by enacting tax legislation that could adversely affect our financial position through increasing our tax liabilities. Further, the BEPS project as well as legislative changes in many countries, has resulted in various initiatives that require the sharing of company financial and operation information with taxing authorities on a local or global basis. This may lead to greater audit scrutiny of profits earned in other countries as well as disagreements between jurisdictions associated with the proper allocation of profits between jurisdictions.

The "Virgin" brand is used by certain of our consolidated subsidiaries and nonconsolidated joint ventures under licenses from Virgin Enterprises Limited and is not under the control of such subsidiaries. The activities of the group of companies utilizing the "Virgin" brand and other licensees could have a material adverse effect on the goodwill of customers towards our business as a licensee and the licenses from Virgin Enterprises Limited can be terminated in certain circumstances. The "Virgin" brand is integral to the corporate identity of our consolidated subsidiaries and nonconsolidated joint ventures that utilize such brand. Such subsidiaries are reliant on the general goodwill of consumers towards the Virgin brand. Consequently, adverse publicity in relation to the group of companies utilizing the "Virgin" brand or its principals, particularly Sir Richard Branson, who is closely associated with the brand, or in relation to another licensee of the "Virgin"

name and logo (particularly in the U.K., where the VMO2 JV does business) could have a material adverse effect on our reputation and our business and results of operations. In addition, the licenses from Virgin Enterprises Limited can be terminated in certain circumstances. For example, Virgin Enterprises Limited can terminate the licenses, after providing our applicable subsidiaries with an opportunity to cure, (i) if they or any of their affiliates commit persistent and material breaches or flagrant and material breaches of the licenses, (ii) if Virgin Enterprises Limited has reasonable grounds to believe that the use (or lack of use) of the licensed trademarks by such subsidiaries has been or is likely to result in a long-term and material diminution in the value of the "Virgin" brand, or (iii) if a third-party who is not (or one of whose directors is not) a "fit and proper person", such as a legally disqualified director or a bankrupt entity, acquires "control" of Liberty Global. Such a termination could have a material adverse effect on our business and results of operations.

Factors Relating to Certain Financial Matters

Our substantial leverage could limit our ability to obtain additional financing and have other adverse effects. We seek to maintain our debt at levels that provide for attractive equity returns without assuming undue risk. In this regard, we generally seek to cause our operating subsidiaries to maintain their debt at levels that result in a consolidated debt balance that is between four and five times our consolidated Adjusted EBITDA (using consistent currency exchange rates for debt and EBITDA). As a result, we are highly leveraged. At December 31, 2022, the outstanding principal amount of our consolidated debt, together with our lease obligations, aggregated $16.1 billion, including $1.1 billion that is classified as current in our consolidated statement of financial position and $14.1 billion that is not due until 2028 or thereafter. We believe that we have sufficient resources to repay or refinance the current portion of our debt and 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. In this regard, we redeemed certain debt instruments using proceeds from the sale of UPC Poland, and targeted such redemptions at instruments with shorter maturities. As a result of unfavorable geopolitical conditions in 2022, credit markets were not offering attractive terms for issuance and thus we did not complete any refinancing transactions on our consolidated businesses. 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 and equity markets we access and, accordingly, our future liquidity and financial position.

Our ability to service or refinance our debt and to maintain compliance with the leverage covenants in the credit agreements and indentures of our borrowing groups is dependent primarily on our ability to maintain or increase the Adjusted EBITDA of our operating subsidiaries and to achieve adequate returns on our property, equipment and intangible asset additions and acquisitions. In addition, our ability to obtain additional debt financing is limited by the incurrence-based leverage covenants contained in the various debt instruments of our borrowing groups. For example, if the Adjusted EBITDA of one of our borrowing groups were to decline, our ability to obtain additional debt could be limited. Accordingly, if our cash provided by operations declines or we encounter other material liquidity requirements, we may be required to seek additional debt or equity financing in order to meet our debt obligations and other liquidity requirements as they come due. In addition, our current debt levels may limit our ability to incur additional debt financing to fund working capital needs, acquisitions, property, equipment and intangible asset additions, or other general corporate requirements. We can give no assurance that any additional debt or equity financing will be available on terms that are as favorable as the terms of our existing debt or at all. Further, our board of directors has approved a share repurchase program for Liberty Global in 2022. Any cash used by our company in connection with any future repurchases of our ordinary shares would not be available for other purposes, including the repayment of debt. For additional information concerning our share repurchase programs, see note 13 to the Consolidated Financial Statements.

Certain of our subsidiaries are subject to various debt instruments that contain restrictions on how we finance our operations and operate our businesses, which could impede our ability to engage in beneficial transactions. Certain of our subsidiaries are subject to significant financial and operating restrictions contained in outstanding credit agreements, indentures and similar instruments of indebtedness. These restrictions will affect, and in some cases significantly limit or prohibit, among other things, the ability of those subsidiaries to:

- incur or guarantee additional indebtedness;
- pay dividends or make other upstream distributions;
- make investments;
- transfer, sell or dispose of certain assets, including subsidiary stock;
- merge or consolidate with other entities;

- engage in transactions with us or other affiliates; or
- create liens on their assets.

As a result of restrictions contained in these debt instruments, the companies party thereto, and their subsidiaries, could be unable to obtain additional capital in the future to:

- fund property, equipment and intangible asset additions or acquisitions that could improve their value;
- meet their loan and capital commitments to their business affiliates;
- invest in companies in which they would otherwise invest;
- fund any operating losses or future development of their business affiliates;
- obtain lower borrowing costs that are available from secured lenders or engage in advantageous transactions that monetize their assets; or
- conduct other necessary or prudent corporate activities.

In addition, most of the credit agreements to which these subsidiaries are parties include financial covenants that require them, in certain circumstances, to maintain certain leverage ratios if the drawings under the applicable revolving credit facility exceed a certain percentage of the commitments under such revolving credit facility. Their ability to meet these financial covenants may be affected by adverse economic, competitive, or regulatory developments and other events beyond their control, and we cannot assure you that these financial covenants will be met. In the event of a default under such subsidiaries' credit agreements or indentures, the lenders or bondholders, as applicable, may accelerate the maturity of the indebtedness under those agreements or indentures, which could result in a default under other outstanding credit facilities or indentures. We cannot assure you that any of these subsidiaries will have sufficient assets to repay indebtedness outstanding under their credit agreements and indentures. Any refinancing of this indebtedness is likely to contain similar restrictive covenants.

We are exposed to interest rate risks. Shifts in such rates may adversely affect the debt service obligation of our subsidiaries. We are exposed to the risk of fluctuations in interest rates, primarily through the credit facilities of certain of our subsidiaries, which are indexed to EURIBOR, LIBOR or other base rates. Although we enter into various derivative transactions to manage exposure to movements in interest rates, there can be no assurance that we will be able to continue to do so at a reasonable cost or at all. If we are unable to effectively manage our interest rate exposure through derivative transactions, any increase in market interest rates would increase our interest rate exposure and debt service obligations, which would exacerbate the risks associated with our leveraged capital structure.

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. Additionally, the European Money Markets Institute (the authority that administers EURIBOR) announced that measures would need to be undertaken by the end of 2021 to reform EURIBOR to ensure compliance with the E.U. Benchmarks Regulation. In November 2020, ICE Benchmark Administration (the entity that administers LIBOR) announced its intention to continue publishing USD LIBOR rates until June 30, 2023, with the exception of the one-week and two-month rates which, along with all CHF and GBP LIBOR rates, it ceased to publish after December 31, 2021. Furthermore, in November 2022, the U.K. Financial Conduct Authority proposed that certain tenors of USD LIBOR would continue to be published on a synthetic basis until the end of September 2024. While this extension allows additional runway on existing contracts using USD LIBOR rates, companies are still encouraged to transition away from using USD LIBOR as soon as practicable and should not enter into new contracts that use USD LIBOR after 2021. The methodology for EURIBOR has been reformed and EURIBOR has been granted regulatory approval to continue to be used. Currently, there is no consensus amongst loan borrowers and investors for what rate(s) should replace USD LIBOR.

In October 2020, the ISDA launched the Fallback Supplement, which, as of January 25, 2021, amended the standard definitions for interest rate derivatives to incorporate fallbacks for derivatives linked to certain key IBORs. The ISDA also launched the Fallback Protocol, a protocol that enables market participants to incorporate these revisions into their legacy non-cleared derivatives with other counterparties that choose to adhere to the protocol. The fallbacks for a particular currency apply following a permanent cessation of the IBOR in that currency, or in the case of an IBOR setting, that IBOR setting becoming permanently unrepresentative, and are adjusted versions of the risk-free rates identified in each currency. Our credit agreements contain provisions that contemplate alternative calculations of the base rate applicable to our LIBOR-indexed and EURIBOR-indexed debt to the extent LIBOR or EURIBOR (as applicable) are not available, which alternative calculations we do not anticipate will be materially different from what would have been calculated under LIBOR or EURIBOR (as applicable). Additionally, no mandatory prepayment or redemption provisions would be triggered under our credit agreements in the event that either the LIBOR rate or the EURIBOR rate is not available. It is possible, however, that any new reference rate that

applies to our LIBOR-indexed or EURIBOR-indexed debt could be different from any new reference rate that applies to our LIBOR-indexed or EURIBOR-indexed derivative instruments. For discontinued currencies and tenors, we expect to continue taking steps to mitigate the changes in these benchmark rates, including by amending existing credit agreements and adhering to the Fallback Protocol, where appropriate. We plan to continue to manage 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 our subsidiaries may incur significant associated costs.

We are subject to increasing operating costs and inflation risks, which may adversely affect our results of operations. While our operations attempt to increase our subscription rates to offset increases in programming, inputs and operating costs, there is no assurance that they will be able to do so. In certain countries in which we operate, our ability to increase subscription rates is subject to regulatory controls. Also, our ability to increase subscription rates may be constrained by competitive pressures. Therefore, programming, inputs and operating costs may rise faster than associated revenue, resulting in a material negative impact on our cash flows and net profit or loss. We are also impacted by inflationary increases in salaries, wages, benefits, regulatory, energy and other administrative costs in certain of our markets as a result of, among other things, Russia's war in Ukraine. In this regard, inflation rates in the countries in which we operate have recently increased, and in many countries, such increases have been significant.

Continuing uncertainties and challenging conditions in the global economy and in the countries in which we operate may adversely impact our business, financial condition and results of operations. The current macroeconomic environment is highly volatile, with continued instability in global markets, including ongoing trade negotiations, uncertainty over inflation, energy price fluctuations, continued escalation in geopolitical tensions and global recession fears having all contributed to a challenging global economic environment. Future developments are dependent upon a number of political and economic factors, including the additional borrowing incurred by countries during the COVID-19 pandemic and the potential for lower growth expectations, higher global interest rates and continued inflationary pressures. As a result, we cannot predict how long challenging conditions will exist or the extent to which the markets in which we operate may deteriorate. Additional risks arising from the ongoing economic challenges in Europe are described below under the Risk Factor titled: *We are exposed to sovereign debt and currency instability risks that could have an adverse impact on our liquidity, financial condition and cash flows.*

Unfavorable economic conditions, including the current cost-of-living crises in many of the countries in which we operate, may impact a significant number of our subscribers and/or the prices we are able to charge for our products and services, and, as a result, it may be (i) more difficult for us to attract new subscribers and maintain current subscribers, (ii) more likely that subscribers will downgrade or disconnect their services and (iii) more difficult for us to maintain ARPUs at existing levels. Countries may also seek new or increased revenue sources due to fiscal deficits. Such actions may further adversely affect our company and our joint ventures. Accordingly, our ability to increase, or, in certain cases, maintain, the revenue, ARPUs, RGUs, mobile subscribers, Adjusted EBITDA, margins and liquidity of our operating segments could be adversely affected if the macroeconomic environment remains uncertain or declines further. We are currently unable to predict the extent of any of these potential adverse effects.

We are exposed to sovereign debt and currency instability risks that could have an adverse impact on our liquidity, financial condition and cash flows. Our operations are subject to macroeconomic and political risks that are outside of our control. For example, high levels of sovereign debt in the U.S. and several countries in which we or our affiliates operate, combined with structural changes arising from the COVID-19 pandemic, could potentially lead to additional fiscal reforms (including austerity measures), tax increases, sovereign debt restructurings, high corporate default rates, currency instability, increased counterparty credit risk, high levels of volatility and disruptions in the credit and equity markets, as well as other outcomes that might adversely impact our company. With regard to currency instability issues, concerns exist in the Eurozone with respect to individual macro-fundamentals on a country-by-country basis, as well as with respect to the overall stability of the European monetary union and the suitability of a single currency to appropriately deal with specific fiscal management and sovereign debt issues in individual Eurozone countries. The realization of these concerns could lead to the exit of one or more countries from the European monetary union and the re-introduction of individual currencies in these countries, or, in more extreme circumstances, the possible dissolution of the European monetary union entirely, which could result in the redenomination of a portion or, in the extreme case, all of our euro-denominated assets, liabilities and cash flows to the new currency of the country in which they originated. This could result in a mismatch in the currencies of our assets, liabilities and cash flows. Any such mismatch, together with the capital market disruption that would likely accompany any such redenomination event, could have a material adverse impact on our liquidity and financial condition. Furthermore, any redenomination event would likely be accompanied by significant economic dislocation, particularly within the eurozone countries, which in turn could have an adverse impact on demand for our products and services, and accordingly, on our revenue and cash flows. Moreover, any changes from euro to non-euro currencies within the countries in which we operate would require us to modify our billing and other financial systems. No assurance can be given that any required modifications

could be made within a time frame that would allow us to timely bill our customers or prepare and file required financial reports. In light of the significant exposure that we have to the euro through our euro-denominated borrowings, derivative instruments, cash balances and cash flows, a redenomination event could have a material adverse impact on our company.

We may not freely access the cash of our operating companies. Our operations are conducted through our subsidiaries. Our current sources of corporate liquidity include (i) our cash and cash equivalents, (ii) investments held within separately managed accounts, and (iii) interest and dividend income received on our cash and cash equivalents and investments. From time to time, we also receive (a) proceeds in the form of distributions or loan repayments from our subsidiaries or affiliates, (b) proceeds upon the disposition of investments and other assets and (c) proceeds in connection with the incurrence of debt or the issuance of equity securities. The ability of our operating subsidiaries to pay dividends or to make other payments or advances to us depends on their individual operating results and any statutory, regulatory or contractual restrictions to which they may be or may become subject and in some cases our receipt of such payments or advances may be limited due to tax considerations or the presence of noncontrolling interests. Most of our operating subsidiaries are subject to credit agreements or indentures that restrict sales of assets and prohibit or limit the payment of dividends or the making of distributions, loans or advances to shareholders and partners, including us. In addition, because these subsidiaries are separate and distinct legal entities they have no obligation to provide us funds for payment obligations, whether by dividends, distributions, loans or other payments.

We are exposed to the risk of default by the counterparties to our cash and short-term investments, derivative and other financial instruments and undrawn debt facilities and cash investments. Although we seek to manage the credit risks associated with our cash and short-term investments, derivative and other financial instruments and undrawn debt facilities, we are exposed to the risk that our counterparties will default on their obligations to us. While we regularly review our credit exposures and currently have no specific concerns about the creditworthiness of any counterparty for which we have material credit risk exposures, we cannot rule out the possibility that one or more of our counterparties could fail or otherwise be unable to meet its obligations to us. Any such instance of default or failure could have an adverse effect on our cash flows, results of operations, financial condition and/or liquidity. In this regard, (i) we may incur losses to the extent that we are unable to recover debts owed to us, including cash deposited and the value of financial losses, (ii) we may incur significant costs to recover amounts owed to us, and such recovery may take a long period of time or may not be possible at all, (iii) our derivative liabilities may be accelerated by the default of our counterparty, (iv) we may be exposed to financial risks as a result of the termination of affected derivative contracts, and it may be costly or impossible to replace such contracts or otherwise mitigate such risks, (v) amounts available under committed credit facilities may be reduced and (vi) disruption to the credit markets could adversely impact our ability to access debt financing on favorable terms, or at all.

At December 31, 2022, our exposure to counterparty credit risk included (i) cash and cash equivalent and restricted cash balances of $1.7 billion, (ii) aggregate undrawn debt facilities of $1.5 billion and (iii) derivative assets with an aggregate fair value of $922.5 million. For additional information regarding our derivative instruments and debt, see notes 9 and 15, respectively, to the Consolidated Financial Statements.

We may not report net profit. We reported profit from continuing operations of $2,473.9 million and $14,048.8 million during 2022 and 2021, respectively. In light of our historical financial performance, we cannot assure you that we will report net profit in the near future.

Other Factors

We have not historically paid any cash dividends, and we may not pay dividends consistently or at all on any class of our ordinary shares. We do not presently intend to pay cash dividends on any class of our ordinary shares for the foreseeable future. However, we have the right to pay dividends, effect securities distributions or make bonus issues on Liberty Global shares. In addition, any dividends or distributions on, or repurchases of Liberty Global shares will reduce our "Distributable Reserves" (defined as our accumulated, realized profits less accumulated, realized losses, as measured for U.K. statutory purposes) legally available to be paid as dividends by our company under English law on any of our ordinary shares.

The loss of certain key personnel could harm our business. We have experienced employees at both the corporate and operational levels who possess substantial knowledge of our business and operations. We cannot assure you that we will be successful in retaining their services or that we would be successful in hiring and training suitable replacements without undue costs or delays. As a result, the loss of any of these key employees could cause significant disruptions in our business operations, which could materially adversely affect our results of operations.

John C. Malone has significant voting power with respect to corporate matters considered by our shareholders. John C. Malone beneficially owns outstanding ordinary shares of Liberty Global representing 30.65% of our aggregate voting power as

of February 13, 2023. By virtue of Mr. Malone's voting power in our company, as well as his position as Chairman of our board of directors, Mr. Malone may have significant influence over the outcome of any corporate transaction or other matters submitted to our shareholders for approval. For example, under English law and our articles of association, certain matters (including amendments to the articles of association) require the approval of 75% of the shareholders who vote (in person or by proxy) on the relevant resolution, and other certain corporate transactions or matters may require the approval of at least 75% of the outstanding shares of each class of our ordinary shares. Because Mr. Malone beneficially owns 30.65% of our aggregate voting power and 67.63% of the outstanding Class B ordinary shares of Liberty Global, he has the ability to prevent the requisite approval threshold from being met even though the other shareholders may determine that such action or transaction is beneficial for the company. Mr. Malone's rights to vote or dispose of his equity interests in our company are not subject to any restrictions in favor of us other than as may be required by applicable law and except for customary transfer restrictions pursuant to equity award agreements.

It may be difficult for a third-party to acquire us, even if doing so may be beneficial to our shareholders. Certain provisions of our articles of association and of English law may discourage, delay, or prevent a change in control of our company that a shareholder may consider favorable. These provisions include the following:

- authorizing a capital structure with multiple classes of ordinary shares; a Class B share class that entitles the holders to 10 votes per share; a Class A share class that entitles the holders to one vote per share; and a Class C share class that, except as otherwise required by applicable law, entitles the holders to no voting rights;
- authorizing the issuance of "blank check" shares (both ordinary and preference), which could be issued by our board of directors to increase the number of outstanding shares and thwart a takeover attempt;
- classifying our board of directors with staggered three-year terms, which may lengthen the time required to gain control of our board of directors, although under English law, shareholders of our company can remove a director without cause by ordinary resolution;
- prohibiting shareholder action by written resolution, thereby requiring all shareholder actions to be taken at a meeting of the shareholders;
- requiring the approval of 75% in value of the shareholders (or class of shareholders) and/or English court approval for certain statutory mergers or schemes of arrangements; and
- establishing advance notice requirements for nominations of candidates for election to our board of directors or for proposing matters that can be acted upon by shareholders at shareholder meetings.

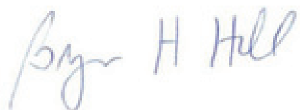
Change in control provisions in our incentive plans and related award agreements or in executive employment agreements may also discourage, delay or prevent a change in control of our company, even if such change of control would be in the best interests of our shareholders.

The enforcement of civil liabilities against us may be more difficult. Because we are a public limited company incorporated under the laws of England and Wales, investors could experience more difficulty enforcing judgments obtained against us in U.S. courts than would currently be the case for U.S. judgments obtained against a U.S. company. It may also be more difficult (or impossible) to bring some types of claims against us in courts sitting in England than it would be to bring similar claims against a U.S. company in a U.S. court. In particular, English law significantly limits the circumstances under which shareholders of English companies may bring derivative actions. Under English law generally, only the company can be the proper plaintiff in proceedings in respect of wrongful acts committed against us. Our articles of association provide for the exclusive jurisdiction of the English courts for shareholder lawsuits against us or our directors.

We are exposed to the risks arising from widespread epidemic diseases in the countries in which we operate, such as the outbreak of COVID-19, which could have a material adverse impact on our business, financial condition and results of operations. The COVID-19 pandemic and the emergency measures imposed by governments worldwide, including travel limitations, limits on social activity and the shutdown of non-essential businesses have adversely impacted the global economy, disrupted global supply chains and created significant volatility and disruption of financial markets. While it is not currently possible to estimate the duration and severity of the adverse economic impact resulting from the preventative measures taken to contain or mitigate the spread of COVID-19, a continued period of global economic disruption may continue to have a material adverse impact on our business, financial condition and results of operations in future periods. We may also be adversely impacted by any government mandated regulations on our business that could be implemented in response to the COVID-19 pandemic. In addition, countries may seek new or increased revenue sources due to fiscal deficits that resulted from measures taken to mitigate the adverse economic impacts of COVID-19, such as, among other things, imposing new taxes on the products and services we provide. We are currently unable to predict the extent of any of these potential adverse effects.

Geopolitical conflicts, energy shortages and other adverse incidents beyond our control could adversely affect our revenue and results of operations. Political unrest and global conflicts like the ongoing conflict between Russia and Ukraine have disrupted, and in the future may further continue to disrupt, global supply chains and heighten volatility and disruption of global financial markets. While we do not have direct operations within Russia or Ukraine, the conflict involving these nations has heightened the disruption to our supply chain, triggered inflation in our labor and energy costs and may increase our risk of cyberattacks, which could result in significant losses and damage and could damage our reputation with customers and suppliers if their confidential information is compromised. The impact of these global events on our longer-term operational and financial performance will depend on future developments, our and governmental responses to inflation, and the duration and severity of the conflict in Ukraine. Any terrorist attacks or incidents prompted by political unrest, particularly in markets that we serve, and the national and global military, diplomatic and financial response to such attacks or other threats, also may adversely affect our revenue and results of operations.

The Group Strategic Report was approved by our board of directors and was signed on its behalf on April 28, 2023 by:



Bryan H. Hall

Executive Vice President, General Counsel
and Secretary

Company registered number: **8379990**

Political Donations

We did not make any political contributions during 2022. Our code of business conduct prohibits the use of company funds and assets for political contributions to political parties, political party officials and candidates for office, unless approved by our general counsel. Additionally, our charitable giving programs available to employees prohibit political contributions by our company.

Dividends

We have not paid any cash dividends on our ordinary shares, and we have no present intention of so doing. Payment of cash dividends, if any, in the future will be determined by our board of directors in light of our earnings, financial condition and other relevant considerations, including applicable laws in England and Wales. Except as noted below, there are currently no contractual restrictions on our ability to pay dividends in cash or shares. The credit facilities to which certain of our subsidiaries are parties restrict our ability to access their cash for, among other things, our payment of cash dividends.

Share Repurchases

The following table provides details of our share repurchases:

	Class A ordinary shares		Class C ordinary shares		
	Shares repurchased	Average price paid per share (a)	Shares repurchased	Average price paid per share (a)	Total cost (a)
					in millions
2022	3,856,700	$ 21.55	69,381,968	$ 23.34	$ 1,702.6
2021	8,445,800	$ 27.31	49,604,048	$ 27.23	$ 1,581.1

(a) Includes direct acquisition costs, where applicable.

Payment to Creditors - Policy and Practice

We follow the requirements of our vendors for payment, which normally requires payment within 30 to 90 days. We also owe amounts pursuant to interest-bearing vendor financing arrangements that are generally due within one year.

Corporate Responsibility

As a trusted provider of telecommunications services for our customers, we strive to ensure the connections we make today are building for a sustainable future. Through our next-generation networks and products, digital innovations and a culture of belonging and well-being, we are purpose-driven to be a responsible, sustainable and inclusive company that offers opportunity for everyone to connect to an exciting digital world. We work to ensure that we are continuously focused on the most significant sustainability impacts of our business – that while we create impact for our customers and the communities we serve, we are not creating negative impact for our planet. We have committed to becoming carbon neutral by 2030 for our Scope 1 and 2 emissions and are working across our entire business to assess carbon reduction plans for Scope 3. Our commitment to reduce our greenhouse gas (**GHG**) emissions includes purchasing electricity from renewable sources, transitioning our fleet to electric vehicles, improving the efficiency of our networks that will allow us to meet growing connectivity demands without increasing energy consumption, tackling e-waste by reducing the use of raw materials in our products, limiting our packaging and designing our products for longer lifespans and circularity. In addition, we are working with our partners and suppliers to ensure our entire value chain shares our focus on the urgency of the climate crisis. As a founding member of the European Green Digital Coalition, we champion our wider industry as a key player in the development of carbon-reducing digital solutions, to enable other sectors to also become more sustainable. Diversity and inclusion have long been priorities for Liberty Global and our operating companies, and they will become even more integral moving forward.

Our Approach

Our Corporate Responsibility (**CR**) approach is focused on addressing the most significant sustainability and social impacts and opportunities of our business as they affect our stakeholders and society in general, as well as our business strategy.

In 2022, we conducted a new materiality study to ensure our strategic direction continues to reflect the changing interests and expectations of our business leaders and stakeholders. We consulted stakeholders including customers, suppliers, employees, investors, business councils and trade associations, non-governmental organizations and interest groups and the leadership teams of our central business and operating companies to understand their priorities and expectations.

To do this, we conducted an analysis of factors that affect our material impacts including:

- Material priorities generated through engagement with local stakeholders within our central business operating companies and our significant joint ventures;
- A peer review of leading telecommunications companies and the issues they present as material for their businesses and associated social impacts;
- General priorities defined by sustainability frameworks, such as the Global Reporting Initiative (**GRI**), the Sustainability Accounting Standards Board (**SASB**) and the Task Force on Climate-Related Financial Disclosures (**TCFD**);
- Material issues identified by Environmental, Social, and Corporate Governance (**ESG**) ratings agencies and the Global e-Sustainability Initiative (**GeSI**) materiality assessment; and
- Identification of our business impact on society with a cross functional team of experts in our operations.

This double materiality analysis confirmed that topics identified in previous materiality studies continue to be relevant for our business, our industry and our stakeholders, with certain topics, such as diversity and inclusion and climate change, being identified as most important. These topics are among our key focus within our CR framework and strategy, as well as our sustainability reporting to stakeholders:

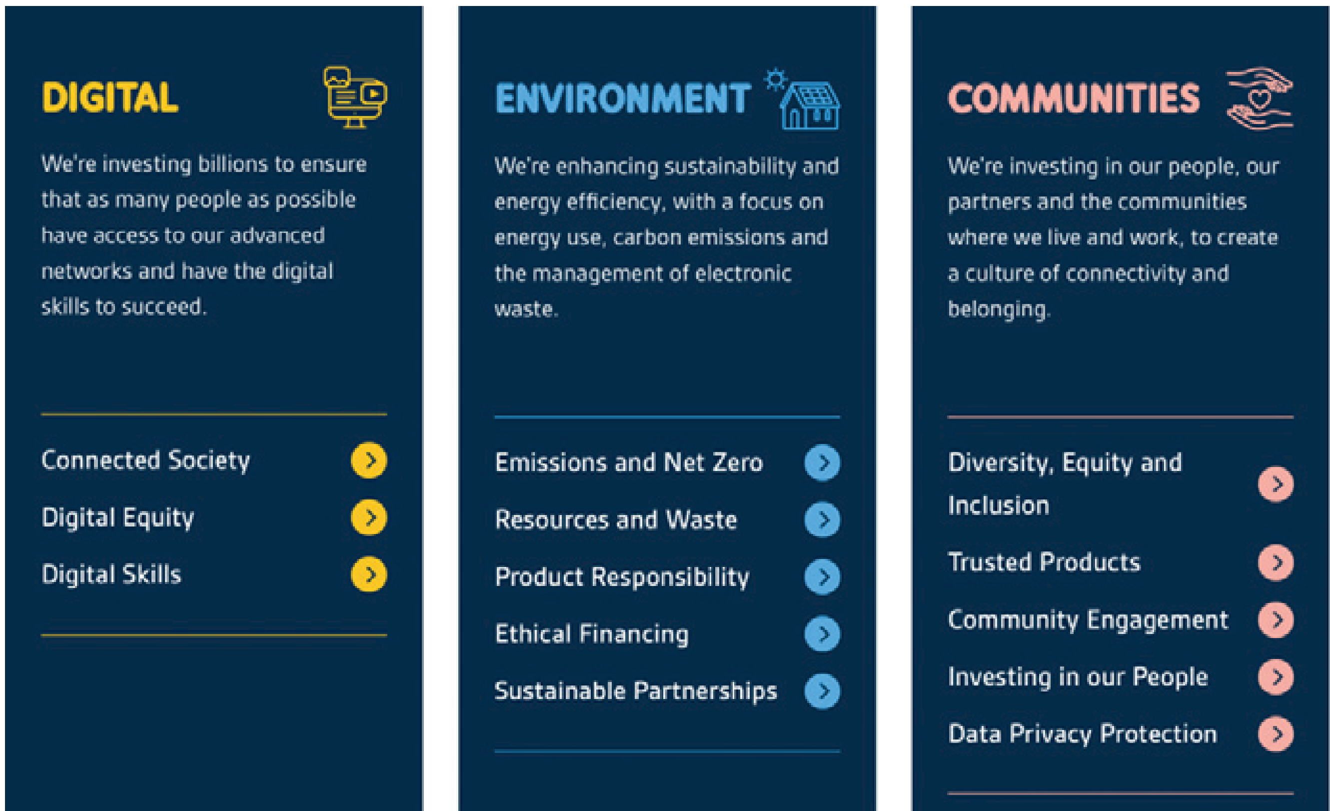
- Diversity Equity and Inclusion
- Climate Change Management
- Network Quality and Reliability
- Business Ethics and Transparency
- Privacy and Data Security
- Energy Efficiency of Infrastructures
- Employee Health and Well-being
- Digitalization and Innovation Management
- Talent Attraction, Retention and Development
- Product Environmental Efficiency
- Resilient and Responsible Supply Chain
- Social Impact and Engagement

We have grouped these material topics into three key pillars, as laid out in our CR framework:

- Digital;
- Environment; and
- Communities.

Further details are available at *https://www.libertyglobal.com/impact/cr-report/material-issues/*.

Our Corporate Responsibility Framework



Community Investments

We measure the impact of our community investment programs using the globally recognized B4SI model (formerly known as London Benchmarking Group). This methodology records the inputs, outputs and positive community impacts of our investments in cash, time and in-kind contributions.

During 2022, our total community contribution was $6.2 million*, of which $4.0 million was in the form of cash donations. These figures cover our corporate organization and our consolidated operations across Europe.

(*) Within KPMG LLP's independent limited assurance scope. Please see below for further information.

Sustainable Growth

We are working to ensure that as our business grows, our environmental impact does not. For Scopes 1 and 2, our largest source of carbon emissions is the energy that powers our networks. Therefore, we are focused on deploying solutions that reduce energy use, from our cable head-ends and hubs to our data centers and street cabinets. At the same time, we are innovating through new technologies and operational best practices to conserve energy across our markets as well as procuring renewable energy in order to reduce our carbon emissions. For Scope 3, we are actively working to identify ways to reduce carbon emissions across our full value chain. This involves innovations in our products to reduce energy consumption from our equipment in our customers' homes, as well as close cooperation with our key suppliers and partners to align on decarbonization targets and timeframes.

Across Scopes 1 and 2, we plan to reduce our carbon emissions through a combination of energy efficiency initiatives in our network infrastructure, electricity consumption reduction, fleet electrification and increased use of renewable energy sources. For Scope 3, we continue to refine our calculation models in order to bring forth a fully substantiated target.

In 2022, we shifted our base reporting year for our sustainability reporting and disclosures from 2012 to 2019 to better reflect our business structure as well as improvements made in our data accuracy and collection methodologies. In addition, we restated our previously reported figures for 2019, 2020 and 2021 to account for structural changes that occurred between 2019

and 2022 in order to ensure a like-for-like comparison across periods. The specific restatements and periods impacted are explained in the section "*Prior Period Restatements*" below.

Between 2019 and 2022, our Scope 1 and 2 emissions have decreased by 25%. However, during 2022, our worldwide energy consumption grew by approximately 4%, as compared to 2021, with associated emissions increasing by approximately 5% (market-based) and 6% (location-based). These increases are primarily attributable to the release of previous COVID-19 pandemic-related restrictions that impacted normal business operations, including employees working predominantly outside our offices. To reduce our static and mobile combustion emissions, we introduced hydrogenated vegetable oil (**HVO**) diesel fuel and sustainable aviation fuel (**SAF**) in 2022 to increase our usage of sustainable and renewable fuels for static and mobile combustion. In addition, we continued our efforts to purchase renewable electricity. As of 2022, 92% of our electricity is from renewable sources with our consumption of onsite renewables increasing 162% since 2019. Between 2019 and 2022, our Scope 3 emissions have declined over 30%. This is attributable to decarbonization efforts by the VMO2 JV and the VodafoneZiggo JV as well as reduced employee travel because of the COVID-19 pandemic.

Further details on Liberty Global's environmental statement and performance are available at https://*www.libertyglobal.com/impact/*.

Energy Consumption

	U.K. Operations				**Worldwide Operations (including U.K.)**			
	Year ended December 31,				**Year ended December 31,**			
	2022	**2021 (a)**	**2020 (a)**	**2019 (a)**	**2022**	**2021 (b)**	**2020 (b)**	**2019 (b)**
	in gigawatt hours (GWh), except percentages							
Fuel:								
Fuels (diesel, petrol, aviation)	1.02	1.02	1.02	1.02	48.46	39.63	36.16	49.57
Natural gas	0.56	0.65	0.64	0.88	10.83	12.31	15.10	15.91
Heating oil	—	—	—	—	0.61	2.82	3.25	1.33
Sustainable fuel	0.25	—	—	—	0.27	—	—	—
Total fuel consumption	**1.83**	**1.67**	**1.66**	**1.90**	**60.17**	**54.76**	**54.51**	**66.81**
Electricity:								
Non-renewable electricity purchased	0.03	0.03	0.03	0.03	31.70	34.65	105.39	256.73
Renewable electricity purchased	4.93	3.79	3.63	3.76	375.50	361.95	272.57	112.28
On-site renewable electricity produced and consumed	—	—	—	—	0.55	0.54	0.23	0.21
Total electricity consumption	**4.96**	**3.82**	**3.66**	**3.79**	**407.75**	**397.14**	**378.19**	**369.22**
Percentage renewable electricity	99 %	99 %	99 %	99 %	92 %	91 %	72 %	30 %
Heating and cooling	**—**	**—**	**—**	**—**	**6.26**	**2.12**	**0.19**	**0.19**
Total energy consumption (c)	**6.79**	**5.49**	**5.32**	**5.69**	**474.18** *	**454.02**	**432.89**	**436.22**

(*) Within KPMG LLP's independent limited assurance scope. Please see "*External Assurance*" below for further information.

(a) Prior to 2022, energy consumption for our central corporate U.K. operations was not tracked separately from our other European operations. Therefore, amounts for the 2019-2021 periods have been estimated using the following methodology:

(i) Energy consumption related to our central corporate U.K. operations was calculated as a percentage of our total central corporate European operations in 2022 and applied to 2019-2021; and

(ii) Our U.K. subscription-based renewable energy business (**Egg**) was acquired in November 2020. Energy consumption data for Egg was first collected in 2022 and we have used this 2022 data as a proxy for Egg's 2019-2021 energy consumption.

(b) These amounts have been restated; please see section "*Prior Period Restatements*" below.

(c) Represents the total energy consumption within our direct operational control from sustainable and non-renewable fuel, renewable and non-renewable electricity and heating and cooling.

GHG Emissions

In line with the Greenhouse Gas Protocol (**GHG Protocol**), our GHG emissions are calculated in carbon dioxide equivalent (**CO2e**) using the most relevant emission conversion factors applicable to the countries in which we operate. CO2e is the standard unit in carbon accounting to quantify GHG emissions.

	U.K. Operations				Worldwide Operations (including U.K.)			
	Year ended December 31,				Year ended December 31,			
	2022	2021 (a)	2020 (a)	2019 (a)	2022	2021 (b)	2020 (b)	2019 (b)
	in metric tons of CO2e (MtCO2e)							
Scope 1 emissions	404	364	362	406	16,121 *	14,643	12,817	17,895
Scope 2 market-based emissions	12	10	12	13	9,507 *	9,781	15,657	16,066
Scope 2 location-based emissions	959	811	853	968	53,226 *	50,610	59,016	54,328
Total Scope 1 and 2 market-based emissions	416	374	374	419	25,628	24,424	28,474	33,961
Total Scope 1 and 2 location-based emissions	1,363	1,175	1,215	1,374	69,347	65,253	71,833	72,223
Total Scope 1 and 2 market-based emissions per USD million of total revenue	1.72	1.29	1.49	1.81	3.50 *	3.30	3.97	4.72
Scope 3 emissions (b)	37,013	41,804	51,528	49,752	44,514 *	47,706	59,974	64,868
Total Scope 1, 2 and 3 market-based emissions	37,429	42,178	51,902	50,171	70,142	72,130	88,448	98,829
Total Scope 1, 2 and 3 location-based emissions	38,376	42,979	52,743	51,126	113,861	112,959	131,807	137,091

(*) Within KPMG LLP's independent limited assurance scope. Please see "*External Assurance*" below for further information.

(a) Prior to 2022, emissions from our central corporate U.K. operations were not tracked separately from our other European operations. Therefore, amounts for the 2019-2021 periods have been estimated using the following methodology:

   (i) Emissions related to our central corporate U.K. operations were calculated as a percentage of our total central corporate European operations in 2022 and applied to 2019-2021; and

   (ii) Energy consumption data for Egg was first collected in 2022 and we have used this 2022 data as the basis for Egg's 2019-2021 emissions.

(b) These amounts have been restated; please see section "*Prior Period Restatements*" below.

(c) Scope 3 indirect emissions include (i) emissions arising from water and waste, which include the impact of recycling customer premises equipment (category 5), (ii) business air and land travel, including the use of employee-owned vehicles for business purposes, flights taken by employees and travel in rental cars, taxis and public transportation (category 6), and (iii) our 50% share of the Scope 1 and 2 market-based emissions from the VMO2 JV and the VodafoneZiggo JV (category 15-investments).

Prior Period Restatements

The tables below provide a comparison between the energy consumption and GHG emissions information previously reported for our Worldwide Operations (including U.K.) and the amounts reflected in the current report in line with the "*Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance*" issued by the U.K. Department for Business, Energy and Industrial Strategy in March 2019. The rationale for the changes is explained below the tables.

	Energy Consumption	
	As reported	As restated
	in GWh	
Year ended December 31, 2021:		
Total fuel consumption	117.19	54.76
Total electricity consumed	1,044.95	397.14
Heating & cooling	3.56	2.12
Electricity sold (from onsite renewables)	(0.06)	—
Total energy consumption	**1,165.64**	**454.02**
Year ended December 31, 2020:		
Total fuel consumption	110.72	54.51
Total electricity consumed	818.02	378.19
Heating & cooling	1.64	0.19
Electricity sold (from onsite renewables)	(0.06)	—
Total energy consumption	**930.32**	**432.89**
Year ended December 31, 2019:		
Total fuel consumption	122.06	66.81
Total electricity consumed	820.41	369.22
Heating & cooling	1.08	0.19
Electricity sold (from onsite renewables)	(0.06)	—
Total energy consumption	**943.49**	**436.22**

	GHG Emissions	
	As reported	As restated
	in MtCO2e	
Year ended December 31, 2021:		
Scope 1 emissions	14,200	14,643
Scope 2 market-based emissions	38,000	9,781
Scope 2 location-based emissions	81,200	50,610
Total Scope 1 and 2 market-based emissions	52,200	24,424
Total Scope 1 and 2 location-based emissions	95,400	65,253
Scope 3 emissions	37,000	47,706
Total Scope 1, 2 and 3 market-based emissions	89,200	72,130
Total Scope 1, 2 and 3 location-based emissions	132,400	112,959
Year ended December 31, 2020:		
Scope 1 emissions	47,000	12,817
Scope 2 market-based emissions	38,300	15,657
Scope 2 location-based emissions	199,100	59,016
Total Scope 1 and 2 market-based emissions	85,300	28,474
Total Scope 1 and 2 location-based emissions	246,100	71,833
Scope 3 emissions	23,400	59,974
Total Scope 1, 2 and 3 market-based emissions	108,700	88,448
Total Scope 1, 2 and 3 location-based emissions	269,500	131,807
Year ended December 31, 2019:		
Scope 1 emissions	48,000	17,895
Scope 2 market-based emissions	39,400	16,066
Scope 2 location-based emissions	207,700	54,328
Total Scope 1 and 2 market-based emissions	87,400	33,961
Total Scope 1 and 2 location-based emissions	255,700	72,223
Scope 3 emissions	41,900	64,868
Total Scope 1, 2 and 3 market-based emissions	129,300	98,829
Total Scope 1, 2 and 3 location-based emissions	297,600	137,091

Amounts for the 2019-2021 periods have been restated to account for the following changes to our organizational and operational boundaries:

(a) In April 2022, we disposed of UPC Poland and have therefore excluded the energy consumption and emissions associated with our Polish operations from all periods;

(b) In June 2021, we completed the U.K. JV Transaction and have excluded the energy consumption and emissions associated with our previously consolidated Virgin Media U.K. operations from all periods. For purposes of the 2021

report, we excluded Virgin Media U.K.'s emissions for 2021, and have now also removed Virgin Media U.K.'s energy consumption for all periods as well as emissions for 2019 and 2020;

(c) In November 2020, we acquired Sunrise and began including its actual energy consumption and emissions from 2021 onward. We have restated our 2019 and 2020 energy consumption and emissions to include an estimate of the energy consumption and emissions associated with Sunrise's operations;

(d) In November 2020, we acquired Egg and began including its actual energy consumption and emissions from 2022 onward. We have restated our 2019-2021 energy consumption and emissions to include an estimate of the energy consumption and emissions associated with Egg's operations. Please see earlier energy consumption and emissions tables for a description of the methodology used to estimate the energy consumption and emissions of Egg;

(e) In June 2019, we acquired De Vijver Media NV (**De Vijver Media**) in Belgium and began including its actual energy consumption and emissions from 2020 onward. We have restated our 2019 energy consumption and emissions to include an estimate of the energy consumption and emissions associated with De Vijver Media's operations; and

(f) We have restated our Scope 3 emissions for 2019-2021 to reflect our 50% share of the Scope 1 and 2 market-based emissions of the VMO2 JV and the VodafoneZiggo JV. We included the 2021 emissions from these investments in our previous report and these amounts have been adjusted in the current period due to refinements made by the joint ventures.

Energy consumption amounts have also been restated for the following:

(a) The fuel associated with hybrid vehicles was excluded from our 2019-2021 fuel data and has now been included. This resulted in increases in our total fuel consumption of 1.33 GWh, 0.97 GWh and 1.13 GWh for 2021, 2020 and 2019, respectively;

(b) Our share of the electricity consumed by the VodafoneZiggo JV was included in our 2021 consumption data and has now been excluded (VodafoneZiggo JV emissions were not reflected in our 2021 Scope 2 emissions data). This resulted in a reduction of 140.89 GWh in our 2021 electricity consumption;

(c) Electricity sold from onsite renewables was reflected in our consumption tables for 2019-2021 and has now been removed. This resulted in an increase of 0.06 GWh per year for the 2019-2021 periods; and

(d) The conversion calculations from liters or m3 to GWh were not updated on an annual basis to reflect the latest conversion factors. We have now applied the relevant conversion factors for the 2019-2021 periods, resulting in increases to our total fuel consumption of 3.56 GWh, 2.92 GWh and 3.69 GWh for 2021, 2020 and 2019, respectively.

Emissions have also been restated for the following:

(a) Scope 1 emissions were understated in 2021 by 908 MtCO2e as we identified certain mobile and fugitive emissions that had been excluded;

(b) Scope 2 market-based emissions were understated by 3,986 MtCO2e, 9,002 MtCO2e and 6,559 MtCO2e in 2021, 2020 and 2019, respectively, due to a computational issue associated with emissions factors applied;

(c) Emissions associated with our central corporate U.K. operations were understated in 2021 as these emissions were removed with Virgin Media U.K.'s emissions in 2021. Understated emissions were as follows: Scope 1: 109 MtCO2e; Scope 2 market-based: nil; Scope 2 location-based: 804 MtCO2e; and Scope 3: 181 MtCO2e. Please see the earlier emissions table for a description of the methodology used to estimate the emissions of our central corporate U.K. operations;

(d) Scope 3 emissions were overstated in 2021 by a net 129 MtCo2e due to an overstatement of travel-related emissions partially offset by an understatement in waste emissions; and

(e) Previously reported emissions associated with travel by third-party service and installation vehicles of 3,691 MtCO2e, 4,026 MtCO2e and 7,297 MtCO2e in 2021, 2020 and 2019, respectively, have been excluded from our Scope 3 emissions as management has concluded that supporting data is not sufficient. We are currently developing a process to collect accurate and reasonably verifiable data from suppliers as part of our Scope 3 decarbonization plan.

External Assurance

We engaged KPMG LLP to undertake independent limited assurance, reporting to Liberty Global, using the assurance standards ISAE (U.K.) 3000 and ISAE 3410, for the selected energy consumption and GHG emissions that have been highlighted above with an *. KPMG LLP's full statement is available on our website at *https://www.libertyglobal.com/impact.* KPMG LLP has provided a conclusion over this selected data.

The level of assurance provided for a limited assurance engagement is substantially lower than a reasonable assurance engagement. In order to reach their conclusion, KPMG LLP performed a range of procedures, including interviews with management, examination of reporting systems, online meetings with each of our operating companies, as well as specific data testing with our corporate offices. A summary of the work that they performed is included within their assurance conclusion. Non-financial performance information, GHG quantification in particular, is subject to more inherent limitations than financial information. It is important to read the GHG emissions information in the context of the full KPMG LLP limited assurance statement and our reporting criteria as set out in our 'Environmental Reporting Criteria' available at *https://www.libertyglobal.com/impact/.* For details on community investment reporting please refer to our Community Investment Reporting Criteria available at *https://libertyglobal.com/impact/.*

Reporting Criteria and Methodology

Our Community Investment Reporting Criteria is available at *https://www.libertyglobal.com/impact/*.

Below is the reporting criteria for Liberty Global's 2022 Energy Consumption and GHG emissions statements as published in this report and in our Liberty Global Environmental Reporting Criteria document for the year ended December 31, 2022.

Organizational Reporting Boundaries

Liberty Global's reported environmental data follows the World Resources Institute and World Business Council on Sustainable Development's GHG Protocol Corporate Standard using the operational control approach. This report includes our consolidated operations in Europe under the consumer brands Telenet in Belgium, Sunrise in Switzerland, Virgin Media in Ireland, UPC in Slovakia, as well as our centralized and corporate functions. We have reported 100% of the emissions from Telenet, in which we have an ownership interest of 61.1% as of December 31, 2022. Emissions from businesses in which we have non-controlling equity stakes are not included within our reported figures with the exception of our 50% interests in the VMO2 JV and the VodafoneZiggo JV. We have included 50% of the Scope 1 and Scope 2 market-based emissions from these joint ventures in our Scope 3 emissions.

Acquisitions and Dispositions

Our policy is to include any new subsidiaries that have been acquired in the first six months of the reporting period and to exclude any subsidiaries for which we no longer have operational control. We rebase prior year data for acquisitions and dispositions.

Reporting Period and Comparative Data

All reported data covers the period from January 1 to December 31, 2022, unless otherwise stated. For comparative purposes and to establish revised base-year values for our environmental targets, our previously reported environmental results are adjusted for acquisitions and dispositions. These adjustments are clearly disclosed in the relevant area of the report for transparency.

We consider prior period errors to be omissions or misstatements to one or more prior periods arising from a failure to use (or misuse of) information that was available when the information was being compiled and that could have been reasonably expected to have been considered. Prior period errors are considered material if they exceed 5% for the specific scope. Material prior-period errors are corrected retrospectively by correcting the comparative amounts and are clearly disclosed in the relevant area for transparency.

The Data Collection and Approval Process

Data is collected by the relevant providers across all market operations and entered into the CR360 system owned by UL (Underwriters Laboratories), an integrated sustainability data management system. The provided data is reviewed and approved

by the relevant market's subject matter experts for accuracy and completeness, as well as by a member of the local accounting or financial reporting team to ensure compliance with our prescribed guidance and requirements. This data is then reviewed and approved by the Chief Financial Officer for the respective market operation before being consolidated at the Liberty Global level and submitted to our Chief Accounting Officer for final approval. In addition, the process is actively supported by our Corporate Responsibility team, our Legal department and senior management.

All calculations are based on site-specific activity data collected by our teams across our company footprint. The majority of our environmental data comes from third-party sources, and we have made every effort to capture the activity data as accurately as possible. However, in some cases, such as with some energy consumption where the data was not available, we have estimated the data based on our previous period, financial costs or technical specifications of the equipment. To ensure a consistent approach in estimating data, we have provided documented reporting guidelines to our operations.

Environmental Impacts

In line with the GHG Protocol, we calculated our GHG emissions in CO2e using the latest, most relevant emission conversion factors according to the countries in which we operate.

For Scope 1 emission sources, we have applied emission factors produced by the Department for Environment, Food & Rural Affairs (Defra 2022) - UK Government GHG Emission Conversion Factors for Company Reporting.

For Scope 2 emission sources, the GHG intensity of electricity varies significantly among countries, and also within geographically large countries. As such, for Scope 2 'location-based' GHG emissions, we have applied the following location-specific emission factors for our operations:

- United Kingdom: Department for Environment, Food & Rural Affairs (Defra 2022) - UK Government GHG Emission Conversion Factors for Company Reporting
- United States: Environmental Protection Agency (EPA) - Emissions & Generation Resource Integrated Database (eGRID2021 - RMPA sub-region)
- For our other market operations, we have applied electricity emission factors from the International Energy Agency (IEA).

For our Scope 2 market-based GHG emissions, we apply supplier-specific emission factors where available. For electricity that does not have supplier-specific factors available, we apply factors from the Reliable Disclosure (RE-DISS) to electricity consumption for our European and U.K. operations and factors from the Green-e Residual Mix Emissions Rates for our U.S. operations.

For Scope 3 emission sources, we have applied emission factors produced by the Department for Environment, Food & Rural Affairs (Defra 2022) - UK Government GHG Emission Conversion Factors for Company Reporting. As noted under Organizational Reporting Boundaries above, we have included the Scope 1 and 2 emissions from the VodafoneZiggo JV and the VMO2 JV in our Scope 3 emissions.

Emissions Intensity Metric

Our emissions intensity metric provides us with meaningful targets against which to measure our business operations' energy usage. In order to better reflect our business operations and to align with our peers for comparable data, we have updated our environmental intensity metric from Scope 1 and 2 market-based emissions per terabyte (TB) of data traffic generated, to Scope 1 and 2 market-based emissions in metric tons of CO2e per USD million of total revenue. Total revenue is adjusted to account for acquisitions and dispositions to align with similar adjustments made to our emissions. In addition, to mitigate the impact of foreign exchange rate fluctuations on our intensity metric, we have based all exchange to U.S. dollars is based on the average 2019 foreign exchange rate.

Qualifying Indemnity Provisions

Under our articles of association, subject to the provisions of the Companies Act 2006, we may, broadly, (i) indemnify to any extent any person who is or was a director, or a director of any associated company, directly or indirectly against any liability incurred by him or her whether in connection with negligence, default, breach of duty or breach of trust or otherwise by him or her in relation to Liberty Global or any associated company, or in connection with that company's activities as a trustee of an occupational pension scheme and (ii) purchase and maintain insurance for any person who is or was a director, or a director of an associated company, against any loss or liability or any expenditure he or she may incur, whether in connection with any proven or alleged negligence, default, breach of duty or breach of trust by him or her, in relation to Liberty Global or any associated company.

We enter into deeds of indemnity with directors, executive officers and certain other officers and employees (including directors, officers and employees of subsidiaries and other affiliates). These deeds of indemnity require that we indemnify such persons, to the fullest extent permitted by applicable law, against all losses suffered or incurred by them in the event that they are a party to or involved in any claim arising in connection with their appointment as a director, officer, employee, agent or fiduciary of Liberty Global or another corporation at the request of Liberty Global.

Employees

Our employees' development, motivation, health and well-being are critical to our business. We aim to create a dynamic, talented workforce that reflects our diverse customers and a culture of innovation in which our 10,100 employees can grow and feel supported. At the heart of this commitment to our employees is 'The People Agenda,' Liberty Global's multi-year people strategy. The People Agenda sets forth our vision for developing and investing in our people across four key areas: Talent, Leadership, Reward and Culture. The People Agenda ensures our employees are supported in their careers, have the tools to work and develop and are engaged in our business, because engaged employees deliver superior business performance. Through the activities of The People Agenda, we aim to provide all our employees with the skills, opportunities, rewards and support they need to reach their full potential at all levels of the organization.

We have a range of employee development programs and provide graduate training and ongoing personal development programs, reflecting our commitment to employee development as a top priority. At Liberty Global, we encourage an inspiring and supportive culture that enables our employees to give their best. We strive to ensure that all of our employees are engaged, informed and aligned with our corporate development goals by communicating often with all employees through email, newsletters and employee meetings.

We give full and fair consideration to all applications for employment, including those from persons with disabilities where the requirements of the job can be adequately fulfilled by a person with disabilities. Where existing employees become disabled, to the extent practicable, we provide continuing employment under normal terms and conditions and provide training and career development and promotion as appropriate.

Directors of the Company during 2022

The following persons were directors of Liberty Global during the year ended December 31, 2022 and up to the date of issuance of this annual report.

John C. Malone (Chairman)
Michael T. Fries (Vice Chairman)
Andrew J. Cole
Miranda Curtis
John W. Dick
Marisa Drew
Paul A. Gould
Richard R. Green
Larry E. Romrell
Daniel Sanchez
J. David Wargo

Information on the Board of Directors' stakeholder engagement and activities is detailed in the Section 172(1) Statement of our Strategic Report included earlier in this report.

Directors' Remuneration Report

Details of the directors' compensation (remuneration) and their interests in the shares of Liberty Global are set out in the Directors' Remuneration Report and sections of the 2023 proxy statement (including the Compensation Discussion and Analysis section). For additional information, see *Table of Contents*.

Disclosure of Information to the Auditor

The directors who held office at the date of approval of this directors' report confirm that, so far as they are each aware, there is no relevant audit information of which Liberty Global's auditor is unaware; and each director has taken all the steps that they ought to have taken as a director to make themselves aware of any relevant audit information and to establish that Liberty Global's auditor is aware of that information.

Re-Appointment of the Auditor

In accordance with Section 489 of the Companies Act 2006, a resolution for the re-appointment of KPMG LLP (U.K.) as statutory auditor of the company has been proposed at the forthcoming annual general meeting.

The Group Directors' Report was approved by our board of directors and was signed on its behalf on April 28, 2023 by:

Bryan H. Hall

Executive Vice President, General Counsel and Secretary

Company registered number: **8379990**

CONSOLIDATED FINANCIAL STATEMENTS

STATEMENT OF DIRECTORS' RESPONSIBILITIES IN RESPECT OF THE 2022 U.K. COMPANIES ACT ANNUAL REPORT

The directors are responsible for preparing the Group Strategic Report, the Group Directors' Report and the group and parent company financial statements in accordance with applicable law and regulations.

Company law requires the directors to prepare Group and parent Company financial statements for each financial year. Under that law, they are required to prepare the Group financial statements in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006 and applicable law and have elected to prepare the parent Company financial statements in accordance with U.K. accounting standards and applicable law, including FRS 101 *Reduced Disclosure Framework*.

Under company law, the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and parent Company and of their profit or loss for that period. In preparing each of the Group and parent company financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgments and estimates that are reasonable, relevant, reliable and prudent;
- for the Group financial statements, state whether they have been prepared in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006;
- for the parent Company financial statements, state whether applicable U.K. accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- assess the Group and parent Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and
- use the going concern basis of accounting unless they either intend to liquidate the Group or the parent Company or to cease operations, or have no realistic alternative but to do so.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the parent Company's transactions and disclose with reasonable accuracy at any time the financial position of the parent Company and enable them to ensure that its financial statements comply with the Companies Act 2006. They are responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error, and have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the Group and to prevent and detect fraud and other irregularities.

Under applicable law and regulations, the directors are also responsible for preparing a Strategic Report and a Directors' Report that complies with that law and those regulations.

The directors are responsible for the maintenance and integrity of the corporate and financial information included on the company's website. Legislation in the U.K. governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF LIBERTY GLOBAL PLC

1 Our opinion is unmodified

We have audited the financial statements of Liberty Global plc ("the Company") for the year ended December 31, 2022 which comprise the consolidated statement of financial position, consolidated statement of profit or loss, consolidated statement of comprehensive income, consolidated statement of changes in equity, consolidated statement of cash flows, parent company statement of financial position, parent company statement of equity, and the related notes, including the accounting policies in note 3 in the consolidated financial statements and note 2 in the parent company financial statements.

In our opinion:

- the financial statements give a true and fair view of the state of the Group's and of the parent Company's affairs as at December 31, 2022 and of the Group's profit for the year then ended;
- the group financial statements have been properly prepared in accordance with UK adopted international accounting standards;
- the parent Company financial statements have been properly prepared in accordance with UK accounting standards, including FRS 101 *Reduced Disclosure Framework*; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities are described below. We have fulfilled our ethical responsibilities under, and are independent of the Group in accordance with, UK ethical requirements including the FRC Ethical Standard as applied to listed entities. We believe that the audit evidence we have obtained is a sufficient and appropriate basis for our opinion.

2 Key audit matters: our assessment of risks of material misstatement

Key audit matters are those matters that, in our professional judgment, were of most significance in the audit of the financial statements and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by us, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. In arriving at our audit opinion above, the key audit matters, in decreasing order of audit significance, were as follows:

Group: Capitalization of costs associated with construction and installation activities

Refer to page 86 (accounting policy)

The risk - Accounting treatment:

Certain external labour and overhead costs incurred are capitalized as part of Property and equipment including Property and equipment classified as held for sale ($6,504.5m (2021: $6,981.5m)). These capitalized costs are associated with the capital projects undertaken by the group and involve estimation of the amount of time and costs that should be capitalised. The most significant risk is that the group may inappropriately capitalize construction and installation costs. The key risks in determining if construction and installation costs qualify for recognition as an asset, include whether the costs are directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by the group; it is probable that future economic benefits associated with the item will flow to the group, and if the cost can be measured reliably.

Our response

Our procedures included:

Control operations - We evaluated the design and implementation of key internal controls in place used for identifying which construction and installation costs should be capitalized, and tested their operating effectiveness.

Tests of details - For external costs capitalised we selected a sample of Property and equipment additions on costs capitalized and assessed the nature of the costs based on third party documentation thereby assessing the appropriateness of the group's cost capitalization conclusions.

Our results
We considered the capitalisation of external costs for 2022 to be acceptable (2021: acceptable)

Impairment assessment of the VMO2 JV Investment

Refer to page 88 (accounting policy)

The risk – accounting treatment:

Group management used a 5-year forecast in compliance with IAS 36 to assess impairment of the VMO2 JV investment. This model contains a high degree of judgement and uncertainty in the estimation of the key assumptions used in the investment impairment test.

Our response

Our procedures included:

Risk assessment - We considered the requirements of IAS 36 – Impairment to ensure that the assessment made by management is in line with the accounting standard. We evaluated how management's risk assessment process identified business risks relating to events and conditions that may cast significant doubt on the ability to continue as a going concern.

Challenge assessment - We evaluated whether management's assessment failed to identify events or conditions that may cast significant doubt on the carrying value of investment and whether the method used by management was appropriate. We made inquiries of management regarding the triggers they assessed as possible indicators of impairment. We inspected management's assessment of impairment triggers and considered whether further indicators should have been assessed based on our knowledge of the business, its operating environment, industry knowledge, current market conditions and other information obtained during the audit. We evaluated the valuation technique assumptions and data used by management to determine their accounting estimates (and range thereof) used for value in use. We evaluated whether judgements and decisions made by management when measuring recoverable amount indicated possible management bias, when viewed against other judgements used within the impairment assessment and those used in other areas of the financial statements. We, alongside our component team, utilised specialists to challenge significant assumptions and judgements relating to weighted average cost of capital (WACC) and terminal growth rate (TGR).

Sector experience - We challenged the appropriateness of key assumptions in the cash flow projections, applying our sector knowledge and experience based on our historical knowledge of the Group and the markets in which it operates, together with market and other externally available information. We independently derived a reasonable range of appropriate discount rates with the assistance of our valuation experts and compared to those calculated by management and identified any differences between the calculations.

Mathematical accuracy - We tested the accuracy of management's calculations of recoverable amount for the cash generating unit (CGU) subject to impairment testing and considered whether the testing performed over the CGU was performed completely.

Assessing transparency: We considered the appropriateness of relevant disclosures.

Sensitivities: We evaluated the appropriateness of the sensitivities included in the disclosure and their impact on the overall impairment.

Our results
We considered the valuation of the investment to be acceptable, with headroom available within the impairment calculations (2021: Acceptable).

Parent Company: Recoverability of the Company’s investments in subsidiaries
($50,945.0 million; 2021 $50,255.9 million)

Refer to page 175 (accounting policy) and page 176 (financial disclosures)

The risk - low risk/high value:

The carrying amount of the Company’s investments in subsidiaries ($50.9 billion) represents 99.6% of the company’s total assets. Their recoverability is not at a high risk of significant misstatement or subject to significant judgment. However, due to their materiality in the context of the financial statements, this is considered to be the area that had the greatest effect on our overall audit of the parent company.

Our response

Our procedures included:

Tests of detail: We compared the carrying amount of material investments with the relevant subsidiaries’ balance sheet to identify whether their net assets, being an approximation of their minimum recoverable amount, were in excess of their carrying amount and assessing whether those subsidiaries have historically been profit-making.

Assessing subsidiary audits: We assessed the work performed by the subsidiary audit teams of those subsidiaries where audits are performed and considering the results of that work on those subsidiaries’ profits and net assets.

Our results
We found the carrying amounts of the investments in subsidiaries to be acceptable (2021: acceptable)

3 Our application of materiality and an overview of the scope of our audit

Materiality for the group financial statements as a whole was set at $320,000,000 (2021: $350,000,000), determined with reference to a benchmark of total assets (2021: total assets) of $42,618m (2021: $46,844m) (of which it represents 0.75% (2021: 0.75%)). We consider total assets to now represent the most relevant benchmark for the purposes of our materiality assessment. This is given the change in focus of the business, towards investment ownership, as opposed to 100% owned trading operations, highlighted by the completion of the VMO2 JV transaction in the prior year

Materiality for the parent company financial statements as a whole was set at $310,000,000 (2021: $332,000,000), determined with reference to a benchmark of Company total assets, of which it represents 0.61% (2021: 0.65%).

In line with our audit methodology, our procedures on individual account balances and disclosures were performed to a lower threshold, performance materiality, so as to reduce to an acceptable level the risk that individually immaterial misstatements in individual account balances add up to a material amount across the financial statements as a whole.

Performance materiality was set at 75% (2021: 75%) of materiality for the financial statements as a whole, which equates to $240,000,000 (2021: $262,000,000) for the Group and $232,000,000 (2021: $249,000,000) for the parent Company. We applied this percentage in our determination of performance materiality because we did not identify any factors indicating an elevated level of risk.

We agreed to report to the Audit Committee any corrected or uncorrected identified misstatements exceeding $16,000,000 (2021: $17,500,000), in addition to other identified misstatements that warranted reporting on qualitative grounds.

Of the group's 10 (2021: 10) reporting components, we subjected 5 (2021: 6) to full scope audits for group purposes and 2 (2021: 3) to specified risk-focused audit procedures. The latter were not individually financially significant enough to require a full scope audit for group purposes, but did present specific individual risks that needed to be addressed.

The components within the scope of our work accounted for the following percentages of the group's results:

2022 (2021)	Number of components	Group revenue	Group profit before tax	Total assets
Audits for group reporting purposes	5 (6)	90.9% (88.9%)	95.4% (97.4%)	97.4% (95.2%)
Specified risk-focused audit procedures	2 (3)	7.6% (9.9%)	2.8% (1.6%)	2.4% (3.4%)
Total	7 (9)	98.5% (98.8%)	98.3% (99%)	99.8% (98.6%)

The remaining 1.5% (2021: 1.2%) of total group revenue, 0.2% (2021: 1%) of group profit before tax and 1.7% (2021: 1.4%) of total group assets is represented by 2 (2021: 1) reporting components. For the residual component, we performed analysis at an aggregated group level to re-examine our assessment that there were no significant risks of material misstatement within this component.

The Group team instructed component auditors as to the significant areas to be covered, including the relevant risks detailed above and the information to be reported back. The Group team approved the component materialities, which ranged from $50.0m to $100.0m (2021: $40.0m to $85.0m), having regard to the mix of size and risk profile of the Group across the components. The work on 7 of the 10 components (2021: 7 of the 8 components) was performed by component auditors and the rest, including the audit of the parent company, was performed by the Group team.

Telephone conference meetings and site visits, inclusive of file reviews, were held with component auditors throughout the audit in the United Kingdom, United States, Netherlands, Belgium and Switzerland. At these meetings, the findings reported to the Group audit team were discussed in more detail, and any further work required by the Group audit team was then performed by the component auditor.

4 Going Concern

The Directors have prepared the financial statements on the going concern basis as they do not intend to liquidate the Company or the Group or to cease their operations, and as they have concluded that the Group's and the Company's financial position means that this is realistic. They have also concluded that there are no material uncertainties that could have cast significant doubt over their ability to continue as a going concern for at least a year from the date of approval of the financial statements ("the going concern period").

We used our knowledge of the Group/Company, its industry, and the general economic environment to identify the inherent risks to its business model and analysed how those risks might affect the Group's and Company's financial resources or ability to continue operations over the going concern period. The risks that we considered most likely to adversely affect the Group and Company's available financial resources and/or metrics relevant to debt covenants over this period were:

- Current levels of debt driven by Vendor Financing arrangements
- Macroeconomic pressures on European economies

We considered whether these risks could plausibly affect the liquidity or covenant compliance in the going concern period by assessing the Directors' sensitivities over the level of available financial resources and covenant thresholds indicated by the Group and Company's financial forecasts taking account of severe, but plausible adverse effects that could arise from these risks individually and collectively.

We considered whether the going concern disclosure in note 1 to the financial statements gives a full and accurate description of the Directors' assessment of going concern, including the identified risks and related sensitivities.

Our conclusions based on this work:

- we consider that the Directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate;

- we have not identified, and concur with the Directors' assessment that there is not, a material uncertainty related to events or conditions that, individually or collectively, may cast significant doubt on the Group or Company's ability to continue as a going concern for the going concern period;

- we have nothing material to add or draw attention to in relation to the Directors' statement in note 1 to the financial statements on the use of the going concern basis of accounting with no material uncertainties that may cast significant

doubt over the Group and Company's use of that basis for the going concern period, and we found the going concern disclosure in note 1 to be acceptable.

However, as we cannot predict all future events or conditions and as subsequent events may result in outcomes that are inconsistent with judgements that were reasonable at the time they were made, the above conclusions are not a guarantee that the Group/Company will continue in operation.

5 Fraud and breaches of laws and regulations – ability to detect

Identifying and responding to risks of material misstatement due to fraud

To identify risks of material misstatement due to fraud ("fraud risks") we assessed events or conditions that could indicate an incentive or pressure to commit fraud or provide an opportunity to commit fraud. Our risk assessment procedures included:

- Enquiring of directors and management as to the Group and Company's high-level policies and procedures to prevent and detect fraud, including the internal audit function, and the Group channel for "whistleblowing", as well as whether they have knowledge of any actual, suspected or alleged fraud;
- Reading Board minutes;
- Considering remuneration incentive schemes and performance targets for management/directors;
- Using analytical procedures to identify any unusual or unexpected relationships;
- Using forensic specialists to assist us in identifying fraud risks based on discussions of the circumstances of the Group

We communicated identified fraud risks throughout the audit team and remained alert to any indications of fraud throughout the audit. This included communication from the group to component audit teams of relevant fraud risks identified at the Group level and request to component audit teams to report to the Group audit team any instances of fraud that could give rise to a material misstatement at group.

As required by auditing standards, and taking into account possible pressures to meet profit targets, we perform procedures to address the risk of management override of controls, in particular the risk that Group and component management may be in a position to make inappropriate accounting entries and the risk of bias in accounting estimates and judgements such as impairment. On this audit we do not believe there is a fraud risk related to revenue recognition because of the straight-forward recognition of cable revenue over time, and the low value nature of the individual revenue transactions.

We also identified a fraud risk related to inappropriate capitalisation of external and internal costs in response to possible pressures to meet profit targets. Further detail in respect of the inappropriate capitalization of external and internal costs is set out in the key audit matter disclosures in section 2 of this report.

In determining the audit procedures we took into account the results of our evaluation and testing of the operating effectiveness of the Group -wide fraud risk management controls.

We also performed procedures including:

- Identifying journal entries to test for all full scope components based on risk criteria and comparing the identified entries to supporting documentation. These included those posted by senior finance management, those posted and approved by the same user and those posted to unusual account combinations
- Evaluated the business purpose of significant unusual transactions
- Assessing significant accounting estimates for bias

Identifying and responding to risks of material misstatement due to non-compliance with laws and regulations

We identified areas of laws and regulations that could reasonably be expected to have a material effect on the financial statements from our general commercial and sector experience ,and through discussion with the directors and other management (as required by auditing standards), and from inspection of the Group's regulatory and legal correspondence and discussed with the directors and other management the policies and procedures regarding compliance with laws and regulations.

As the Group is regulated, our assessment of risks involved gaining an understanding of the control environment including the entity's procedures for complying with regulatory requirements.

We communicated identified laws and regulations throughout our team and remained alert to any indications of non-compliance throughout the audit. This included communication from the group to component audit teams of relevant laws and regulations identified at the Group level, and a request for component auditors to report to the group team any instances of non-compliance with laws and regulations that could give rise to a material misstatement at group

The potential effect of these laws and regulations on the financial statements varies considerably.

Firstly, the Group is subject to laws and regulations that directly affect the financial statements including financial reporting legislation (including related companies legislation), distributable profits legislation, taxation legislation and we assessed the extent of compliance with these laws and regulations as part of our procedures on the related financial statement items.

Secondly, the Group is subject to many other laws and regulations where the consequences of non-compliance could have a material effect on amounts or disclosures in the financial statements, for instance through the imposition of fines or litigation or the loss of the Group's license to operate. We identified the following areas as those most likely to have such an effect: data and privacy law reflecting the growing amount of personal data held and competition and markets regulation, recognising the nature of the Group's activities. Auditing standards limit the required audit procedures to identify non-compliance with these laws and regulations to enquiry of the directors and other management and inspection of regulatory and legal correspondence, if any. Therefore, if a breach of operational regulations is not disclosed to us or evident from relevant correspondence, an audit will not detect that breach.

We discussed with the audit committee matters related to actual or suspected breaches of laws or regulations, for which disclosure is not necessary, and considered any implications for our audit

Context of the ability of the audit to detect fraud or breaches of law or regulation

Owing to the inherent limitations of an audit, there is an unavoidable risk that we may not have detected some material misstatements in the financial statements, even though we have properly planned and performed our audit in accordance with auditing standards. For example, the further removed non-compliance with laws and regulations is from the events and transactions reflected in the financial statements, the less likely the inherently limited procedures required by auditing standards would identify it.

In addition, as with any audit, there remained a higher risk of non-detection of fraud, as these may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls. Our audit procedures are designed to detect material misstatement. We are not responsible for preventing non-compliance or fraud and cannot be expected to detect non-compliance with all laws and regulations.

6 We have nothing to report on the other information in the Annual Report

The directors are responsible for the other information presented in the Annual Report together with the financial statements. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except as explicitly stated below, any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether, based on our financial statements audit work, the information therein is materially misstated or inconsistent with the financial statements or our audit knowledge. Based solely on that work we have not identified material misstatements in the other information.

Strategic report and directors' report

Based solely on our work on the other information:

- we have not identified material misstatements in the strategic report and the directors' report;
- in our opinion the information given in those reports for the financial year is consistent with the financial statements; and
- in our opinion those reports have been prepared in accordance with the Companies Act 2006.

Directors' remuneration report

In our opinion the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006.

7 We have nothing to report on the other matters on which we are required to report by exception

Under the Companies Act 2006, we are required to report to you if, in our opinion:
- adequate accounting records have not been kept by the parent Company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent Company financial statements and the part of the Directors' Remuneration Report which we were engaged to audit are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

We have nothing to report in these respects.

8 Respective responsibilities

Directors' responsibilities
As explained more fully in their statement set out on page 66, the directors are responsible for: the preparation of the financial statements including being satisfied that they give a true and fair view; such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error; assessing the Group and parent Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and using the going concern basis of accounting unless they either intend to liquidate the Group or the parent Company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities
Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue our opinion in an auditor's report. Reasonable assurance is a high level of assurance, but does not guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

A fuller description of our responsibilities is provided on the FRC's website at *www.frc.org.uk/auditorsresponsibilities*.

9 The purpose of our audit work and to whom we owe our responsibilities

This report is made solely to the Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and the terms of our engagement by the Company. Our audit work has been undertaken so that we might state to the Company's members those matters we are required to state to them in an auditor's report, and the further matters we are required to state to them in accordance with the terms agreed with the Company, and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's members, as a body, for our audit work, for this report, or for the opinions we have formed.

/s/ ROBERT SEALE

Robert Seale (Senior Statutory Auditor)
for and on behalf of KPMG LLP, Statutory Auditor
Chartered Accountants
15 Canada Square, London, United Kingdom
April 28, 2023

LIBERTY GLOBAL PLC

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

	Note References	December 31, 2022	December 31, 2021
		in millions	
ASSETS			
Property and equipment, net	7 and 16	$ 6,517.1	$ 6,854.9
Goodwill	7	9,326.7	9,534.7
Intangible assets subject to amortization, net	7	3,718.7	3,818.5
Equity method investments	8	14,429.4	16,926.1
Fair value investments	8 and 10	2,128.6	2,727.7
Deferred tax assets	11	286.0	403.9
Other assets, net, excluding deferred tax assets	4, 7, 9, 10, 12 and 16	1,557.8	652.4
Other assets, net		1,843.8	1,056.3
Total non-current assets		37,964.3	40,918.2
Current assets:			
Other current assets	4, 8 and 10	684.8	633.6
Short-term investments (measured at fair value on a recurring basis)	8 and 10	2,621.6	2,269.6
Derivative instruments	9 and 10	382.7	244.3
Trade receivables, net	10 and 12	830.6	907.3
Cash and cash equivalents	10	1,726.2	910.6
Assets held for sale	6	—	924.5
Total current assets		6,245.9	5,889.9
Total assets		$ 44,210.2	$ 46,808.1

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

LIBERTY GLOBAL PLC

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION — (Continued)

	Note References	December 31, 2022	December 31, 2021
		in millions	
EQUITY AND LIABILITIES			
Equity:			
Liberty Global shareholders:			
Share capital:			
Class A ordinary shares, $0.01 nominal value. Issued and outstanding 171,917,370 and 174,310,558 shares, respectively	13	$ 1.8	$ 1.8
Class B ordinary shares, $0.01 nominal value. Issued and outstanding 12,994,000 and 12,930,839 shares, respectively	13	0.1	0.1
Class C ordinary shares, $0.01 nominal value. Issued and outstanding 274,436,585 and 340,114,729 shares, respectively	13	2.7	3.4
Share premium reserve	13	1,149.4	1,136.3
Merger reserve	13	4,749.3	4,749.3
Other reserves	13	(1,605.5)	1,484.5
Retained earnings	13	19,662.8	18,536.4
Treasury shares, at cost	13	(0.1)	(0.1)
Total Liberty Global shareholders		23,960.5	25,911.7
Noncontrolling interests		38.0	(343.3)
Total equity		23,998.5	25,568.4
Liabilities:			
Non-current debt and lease obligations	10, 15 and 16	14,606.6	15,200.5
Non-current portion of provisions	17	488.7	494.0
Deferred tax liabilities	11	509.2	535.0
Other non-current liabilities excluding deferred tax liabilities	4, 9, 10 and 18	731.4	973.8
Other non-current liabilities		1,240.6	1,508.8
Total non-current liabilities		16,335.9	17,203.3
Current liabilities:			
Other accrued and current liabilities	19	1,211.2	1,193.5
Provisions	17	145.7	134.1
Accrued income taxes	11	236.3	235.7
Current portion of debt and lease obligations	10, 15 and 16	1,111.3	1,161.2
Derivative instruments	9 and 10	296.8	221.8
Deferred revenue	4	264.4	274.7
Accounts payable	10 and 20	610.1	614.1
Liabilities held for sale	6	—	201.3
Total current liabilities		3,875.8	4,036.4
Total liabilities		20,211.7	21,239.7
Total equity and liabilities		$ 44,210.2	$ 46,808.1

The financial statements were approved by our board of directors and were signed on its behalf on April 28, 2023 by:

Michael T. Fries
President, Chief Executive Officer and Director
Company registered number: **8379990**

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

LIBERTY GLOBAL PLC

CONSOLIDATED STATEMENTS OF PROFIT OR LOSS

	Note References	Year ended December 31, 2022	2021
		in millions, except per share amounts	
Revenue	4, 6, 8 and 19	$ 7,194.1	$ 10,315.9
Costs of services	7, 14, 16 and 22	5,056.9	6,546.6
General and administrative (**G&A**) expenses	7, 14, 16, 22 and 23	1,187.7	1,508.9
Selling expenses	22	675.8	923.5
Impairment, restructuring and other operating items, net	16, 17 and 18	102.6	(46.6)
		7,023.0	8,932.4
Operating profit		171.1	1,383.5
Finance income	24	2,686.9	2,730.7
Finance costs	24	(1,005.4)	(1,073.5)
Net finance income		1,681.5	1,657.2
Share of results of affiliates, net	8	407.0	(215.8)
Gain on Telenet Tower Sale	6	391.9	—
Gain on U.K. JV Transaction	6	—	10,841.4
Gain on AtlasEdge JV Transactions	6	—	211.3
Other income (expense), net		22.7	(6.0)
		2,503.1	12,488.1
Profit from continuing operations before income taxes		2,674.2	13,871.6
Income tax benefit (expense)	11	(200.3)	177.2
Profit from continuing operations		2,473.9	14,048.8
Profit from discontinued operations, net of taxes	6	34.6	82.5
Gain on disposal of discontinued operations, net of taxes	6	735.3	—
Net profit		3,243.8	14,131.3
Net profit attributable to noncontrolling interests	3	(421.7)	(181.8)
Net profit attributable to Liberty Global shareholders		$ 2,822.1	$ 13,949.5
Basic profit attributable to Liberty Global shareholders per share:	3		
Continuing operations		$ 4.19	$ 24.95
Discontinued operations	6	1.57	0.15
		$ 5.76	$ 25.10
Diluted profit attributable to Liberty Global shareholders per share:	3		
Continuing operations		$ 4.13	$ 24.37
Discontinued operations	6	1.55	0.14
		$ 5.68	$ 24.51

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

LIBERTY GLOBAL PLC

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME OR LOSS

	Note References	Year ended December 31, 2022	Year ended December 31, 2021
		in millions	
Net profit		$ 3,243.8	$ 14,131.3
Other comprehensive loss, net of taxes:	25		
Continuing operations:			
Foreign currency translation adjustments		(3,046.3)	(1,070.8)
Reclassification adjustments included in net profit	6	0.2	749.4
Pension-related adjustments and other		(95.2)	93.1
Other comprehensive loss from continuing operations		(3,141.3)	(228.3)
Other comprehensive loss from discontinued operations	6	(44.4)	(59.9)
Other comprehensive loss		(3,185.7)	(288.2)
Comprehensive income		58.1	13,843.1
Comprehensive income attributable to noncontrolling interests		(423.9)	(183.3)
Comprehensive income (loss) attributable to Liberty Global shareholders		$ (365.8)	$ 13,659.8

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

LIBERTY GLOBAL PLC

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

		Liberty Global shareholders										
	Notes References	Share capital	Share premium reserve	Merger reserve	Capital redemption reserve	Foreign currency translation reserve	Other reserves	Retained earnings	Treasury shares, at cost	Total Liberty Global shareholders	Non-controlling interests	Total equity
							in millions					
Balance at January 1, 2021		$ 5.8	$ 1,127.0	$ 4,749.3	$ 4.6	$ 1,990.7	$ 0.1	$ 5,675.2	$ (0.1)	$ 13,552.6	$ (369.4)	$ 13,183.2
Net profit		—	—	—	—	—	—	13,949.5	—	13,949.5	181.8	14,131.3
Other comprehensive loss, net of taxes	25	—	—	—	—	(511.3)	(0.1)	221.7	—	(289.7)	1.5	(288.2)
Repurchases and cancellations of Liberty Global ordinary shares	13	(0.5)	—	—	0.5	—	—	(1,581.1)	—	(1,581.1)	—	(1,581.1)
Share-based compensation	14	—	—	—	—	—	—	310.8	—	310.8	—	310.8
Distributions by subsidiaries to noncontrolling interest owners		—	—	—	—	—	—	—	—	—	(141.8)	(141.8)
Repurchases by Telenet of its outstanding shares		—	—	—	—	—	—	(16.9)	—	(16.9)	1.6	(15.3)
Adjustments due to changes in subsidiaries' equity and other, net		—	9.3	—	—	—	—	(22.8)	—	(13.5)	(17.0)	(30.5)
Balance at December 31, 2021		$ 5.3	$ 1,136.3	$ 4,749.3	$ 5.1	$ 1,479.4	$ —	$ 18,536.4	$ (0.1)	$ 25,911.7	$ (343.3)	$ 25,568.4

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

LIBERTY GLOBAL PLC

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY — (Continued)

		Liberty Global shareholders									
	Notes References	Share capital	Share premium reserve	Merger reserve	Capital redemption reserve	Foreign currency translation reserve	Retained earnings	Treasury shares, at cost	Total Liberty Global shareholders	Non-controlling interests	Total equity
		in millions									
Balance at January 1, 2022		$ 5.3	$ 1,136.3	$4,749.3	$ 5.1	$ 1,479.4	$18,536.4	$ (0.1)	$ 25,911.7	$ (343.3)	$25,568.4
Net profit		—	—	—	—	—	2,822.1	—	2,822.1	421.7	3,243.8
Other comprehensive loss, net of taxes	25	—	—	—	—	(3,090.7)	(97.2)	—	(3,187.9)	2.2	(3,185.7)
Repurchases and cancellations of Liberty Global ordinary shares	13	(0.7)	—	—	0.7	—	(1,702.6)	—	(1,702.6)	—	(1,702.6)
Repurchases by Telenet of its outstanding shares		—	—	—	—	—	180.2	—	180.2	—	180.2
Distributions by subsidiaries to noncontrolling interest owners		—	—	—	—	—	—	—	—	(66.3)	(66.3)
Share-based compensation	14	—	—	—	—	—	(28.0)	—	(28.0)	3.1	(24.9)
Adjustments due to changes in subsidiaries' equity and other, net		—	13.1	—	—	—	(48.1)	—	(35.0)	20.6	(14.4)
Balance at December 31, 2022		$ 4.6	$ 1,149.4	$4,749.3	$ 5.8	$(1,611.3)	$19,662.8	$ (0.1)	$ 23,960.5	$ 38.0	$23,998.5

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

LIBERTY GLOBAL PLC

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Note References	Year ended December 31, 2022	2021
		in millions	
Cash flows from operating activities:			
Net profit		$ 3,243.8	$ 14,131.3
Profit from discontinued operations	6	769.9	82.5
Profit from continuing operations		2,473.9	14,048.8
Adjustments to reconcile profit from continuing operations to net cash provided by operating activities of continuing operations:			
Share-based compensation expense	14	202.6	333.3
Depreciation and amortization	7 and 22	2,386.4	2,603.4
Impairment, restructuring and other operating items, net	17 and 18	102.6	(46.6)
Net finance income	24	(1,681.5)	(1,657.2)
Share of results of affiliates, net	8	(407.0)	215.8
Deferred income tax expense (benefit)	11	88.1	(307.0)
Gain on Telenet Tower Sale	6	(391.9)	—
Gain on U.K. JV Transaction	6	—	(10,841.4)
Gain on AtlasEdge JV Transactions	6	—	(211.3)
Changes in operating assets and liabilities, net of the effects of acquisitions and dispositions:			
Receivables and other operating assets		624.8	482.1
Payables and accruals		(470.8)	(594.0)
Dividend distributions received from the VMO2 JV	8	454.6	214.8
Dividend distributions received from the VodafoneZiggo JV	8	266.6	311.7
Interest paid		(623.4)	(904.6)
Interest received		111.0	88.9
Income taxes paid		(164.3)	(156.2)
Net cash provided by operating activities of continuing operations		2,971.7	3,580.5
Net cash provided by operating activities of discontinued operations		52.0	188.6
Net cash provided by operating activities		$ 3,023.7	$ 3,769.1

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

LIBERTY GLOBAL PLC

CONSOLIDATED STATEMENTS OF CASH FLOWS — (Continued)

	Note References	Year ended December 31, 2022	2021
		in millions	
Cash flows from investing activities:			
Cash paid for investments	8	$ (9,433.8)	$ (7,461.7)
Cash received from the sale of investments	8	9,213.3	6,370.8
Cash received in connection with the sale of UPC Poland	6	1,553.3	—
Capital expenditures, net	7	(1,366.5)	(1,478.3)
Cash received in connection with the Telenet Tower Sale	6	779.9	—
Dividend distributions received from the VMO2 JV	8	477.9	—
Cash released from the Vodafone Escrow Accounts, net	6	6.5	214.9
Cash received (paid) in connection with acquisitions, net of cash acquired	5	2.7	(70.8)
Cash and restricted cash contributed to the VMO2 JV in connection with the U.K. JV Transaction	6	—	(3,424.0)
Net cash received in connection with the AtlasEdge JV Transactions	6	—	144.5
Loans to the VodafoneZiggo JV	8	—	(123.0)
Net cash received in connection with the U.K. JV Transaction	6	—	108.6
Other investing activities, net		—	(96.7)
Net cash provided (used) by investing activities of continuing operations		1,233.3	(5,815.7)
Net cash used by investing activities of discontinued operations		(15.6)	(51.0)
Net cash provided (used) by investing activities		1,217.7	(5,866.7)
Cash flows from financing activities:			
Borrowings of debt	15	4.7	2,570.7
Operating-related vendor financing additions	15	522.7	1,781.6
Repayments and repurchases of debt and lease obligations:			
Debt (excluding vendor financing)	15	(980.9)	(1,721.0)
Principal payments on operating-related vendor financing	15	(616.1)	(1,408.0)
Principal payments on capital-related vendor financing	15	(210.1)	(964.4)
Principal payments on leases	16	(183.7)	(221.9)
Repurchases of Liberty Global ordinary shares	13	(1,703.4)	(1,580.4)
Dividend distributions by subsidiaries to noncontrolling interest owners		(61.1)	(137.6)
Net cash received (paid) related to derivative instruments	9	(50.0)	143.6
Payment of financing costs and debt premiums	15	(28.5)	(23.3)
Other financing activities, net		(88.7)	(98.1)
Net cash used by financing activities of continuing operations		(3,395.1)	(1,658.8)
Net cash used by financing activities of discontinued operations		(3.5)	(36.9)
Net cash used by financing activities		$ (3,398.6)	$ (1,695.7)

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

LIBERTY GLOBAL PLC

CONSOLIDATED STATEMENTS OF CASH FLOWS — (Continued)

	Note References	Year ended December 31, 2022	2021
		in millions	
Effect of exchange rate changes on cash and cash equivalents and restricted cash:			
Continuing operations		$ (27.7)	$ (6.6)
Discontinued operations		—	—
Total		(27.7)	(6.6)
Net increase (decrease) in cash and cash equivalents and restricted cash:			
Continuing operations		782.2	(3,900.7)
Discontinued operations		32.9	100.7
Total		815.1	(3,800.0)
Cash and cash equivalents and restricted cash:			
Beginning of year		917.3	4,717.3
Net increase (decrease)		815.1	(3,800.0)
End of year		$ 1,732.4	$ 917.3
Details of end of year cash and cash equivalents and restricted cash:			
Cash and cash equivalents	10	$ 1,726.2	$ 910.6
Restricted cash included in other assets, net, and other current assets	10	6.2	6.7
Total cash and cash equivalents and restricted cash		$ 1,732.4	$ 917.3

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

(1) Basis of Presentation

Liberty Global plc (**Liberty Global**) is a public limited company organized under the laws of England and Wales. In these notes, the terms "we," "our," "our company" and "us" may refer, as the context requires, to Liberty Global or collectively to Liberty Global and its subsidiaries. We are an international provider of broadband internet, video, fixed-line telephony and mobile communications services to residential customers and businesses in Europe.

Our continuing operations comprise businesses that provide residential and business-to-business (**B2B**) communications services in (i) Switzerland and Slovakia through certain wholly-owned subsidiaries that we collectively refer to as "**UPC Holding**", (ii) Belgium through Telenet Group Holding N.V. (**Telenet**), a 61.1%-owned subsidiary, and (iii) Ireland through another wholly-owned subsidiary (**VM Ireland**). In addition, we own 50% noncontrolling interests in (a) a 50:50 joint venture (the **VMO2 JV**) with Telefónica SA (**Telefónica**), which provides residential and B2B communication services in the United Kingdom (**U.K.**), and (b) a 50:50 joint venture (the **VodafoneZiggo JV**) with Vodafone Group plc (**Vodafone**), which provides residential and B2B communication services in the Netherlands.

Through March 31, 2022, we provided residential and B2B communications services in Poland through UPC Holding. On April 1, 2022, we completed the sale of our operations in Poland. Accordingly, in these consolidated financial statements, our operations in Poland are reflected as discontinued operations for all applicable periods. For additional information, see note 6.

Through May 31, 2021, our consolidated operations also included residential and B2B communications services provided to customers in the U.K. through Virgin Media Inc. (**Virgin Media**). On June 1, 2021, we contributed the U.K. JV Entities (as defined in note 6) to the VMO2 JV and began accounting for our 50% interest in the VMO2 JV as an equity method investment. For additional information, see note 6.

These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (**IFRS**) as issued by the International Accounting Standards Board (**IASB**) and adopted by the U.K. and applied in accordance with the Companies Act 2006 (the **Companies Act**). Our significant accounting principles are summarized in note 3, which have been applied consistently throughout the periods presented in these consolidated financial statements.

These consolidated financial statements have been prepared on a going concern basis under the historical cost conversion and are presented in United States (**U.S.**) dollars, which is our reporting currency. Unless otherwise indicated, the amounts presented in these notes relate only to our continuing operations, and ownership percentages and convenience translations into U.S. dollars are calculated as of December 31, 2022.

These consolidated financial statements were authorized for issue by our board of directors on April 28, 2023.

(2) Accounting Changes and Recent Accounting Pronouncements

First-time Application of Accounting Standards

The following amendments to accounting standards have been initially applied:

Standard	Title	Applicable for fiscal years beginning on or after	Date of endorsement by the E.U.
IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 (amendments)	Interest Rate Benchmark Reform — Phase 2	January 1, 2022 (a)	January 14, 2021

(a) In August 2020, the IASB issued *Interest Rate Benchmark Reform — Phase 2*, which amends IFRS 9, *Financial Instruments*, IAS 39, *Financial Instruments: Recognition and Measurement*, IFRS 7, *Financial Instruments: Disclosures*, IFRS 4, *Insurance Contracts* and IFRS 16, *Leases.* The amended guidance provides optional expedients for contract modifications, subject to meeting certain criteria, that reference Interbank Offered Rates (**IBORs**). In accordance with the optional expedients in the amended guidance, we modified certain debt agreements during 2022 to replace IBOR with another reference rate and applied the practical expedient to account for the modification as a continuation of the existing contract. The use of optional expedients has not had a significant impact on our consolidated financial statements to date. For additional information regarding our debt, see note 15.

New Accounting Standards, Not Yet Effective

Except for the following accounting standards that are relevant for our company, there were no additional standards and interpretations issued by the IASB that are not yet effective for the current reporting period that we see as relevant for our company. We have not early adopted the accounting standards that are relevant for us.

Standard	Title	Applicable for fiscal years beginning on or after	Date of endorsement by the E.U.
IAS 1 (amendments)	Disclosure of Accounting Policies	January 1, 2023 (a)	March 3, 2022
IAS 8 (amendments)	Definition of Accounting Estimates	January 1, 2023 (a)	March 3, 2022
IAS 12 (amendments)	Deferred Tax related to Assets and Liabilities Arising from a Single Transaction	January 1, 2023 (a)	August 12, 2022
IFRS 16 (amendments)	Lease liability in a sale and lease back	January 1, 2024 (a)	September 22, 2022
IAS 1 (amendments)	Classification of Liabilities as Current or Non-Current and Non-Current Liabilities with Covenants	January 1, 2024 (a)	Not yet endorsed

(a) We evaluated the impact of applying these accounting standards on the consolidated financial statements and do not believe the impact of the adoption of these standards to be material.

(3) Summary of Significant Accounting Policies

Estimates and Judgments

In connection with the preparation of the 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 the 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 and the development of internal-use software;
- Fair value measurements; and
- Income tax accounting.

We have discussed the selection of the aforementioned critical accounting policies with the audit committee of our board of directors.

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 non-current asset or asset group, (ii) adverse changes in market or competitive conditions, (iii) an adverse change in legal factors or business climate in the markets in which we operate and (iv) operating or cash flow losses. For purposes of impairment testing, non-current assets are grouped at the lowest level for which cash flows are largely independent of other assets and liabilities, generally at or below the cash-generating unit (**CGU**) level. 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 a CGU's carrying amount may not be recoverable. If the fair value of one of our CGUs is less than its carrying value, any excess would be charged to operations as an impairment loss. A CGU is an operating segment or one level below an operating segment (referred to as a "component").

Considerable management judgement is necessary to estimate the fair value of cash-generating units and underlying non-current and indefinite-lived assets, the most significant of which relate to the determination of EBITDA (earnings before interest, taxes, depreciation and amortization) multiples for recent transactions and publicly-traded peer companies. For additional information regarding our 2022 quantitative goodwill impairment assessment, see note 7.

During the two years ended December 31, 2022, we did not record any significant impairment charges with respect to our property and equipment and intangible assets. For additional information regarding our non-current assets, see note 7.

If, among other factors, (i) our equity values were to decline or (ii) 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, 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 non-current assets. Any such impairment charges could be significant. Impairment of goodwill is not reversed. For other assets, an impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

Costs Associated with Construction and Installation Activities

We capitalize costs associated with the construction of new fixed and mobile transmission and distribution facilities and the installation of new fixed-line services. Installation activities that are capitalized include (i) the initial connection (or drop) from our fixed-line system to a customer location, (ii) the replacement of a drop and (iii) the installation of equipment for additional services, such as broadband internet or fixed-line services. The costs of other customer-facing activities, such as reconnecting and 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 and estimates. 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

IFRS 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 and our fair value method investments. We use (i) cash flow valuation models to determine the fair values of our interest rate and foreign currency derivative instruments and (ii) a binomial option pricing model to determine the fair values of our equity-related derivative instruments. We use quoted market prices when available and, when not available, we use a combination of an income approach (discounted cash flows) and a market approach (market multiples of similar businesses) to determine the fair value of our fair value method investments. For a detailed discussion of the inputs we use to determine the fair value of our derivative instruments and fair value method investments, see note 10. See notes 8 and 9 for information concerning our fair value method investments and derivative instruments, respectively.

Changes in the fair values of our derivative instruments and fair value method investments have had, and we believe will continue to have, a significant and volatile impact on our results of operations. During 2022 and 2021, we recognized net gains of $896.1 million and $1,392.3 million, respectively, attributable to changes in the fair values of these items.

As further described in note 10, actual amounts received or paid upon the settlement or disposition of these investments and instruments may differ materially from the recorded fair values at December 31, 2022.

Nonrecurring Valuations. Our nonrecurring valuations are primarily associated with (i) the application of acquisition accounting, (ii) impairment assessments and (iii) the accounting for our initial investment in significant joint ventures, 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 non-current 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 non-current assets were initially recorded through the application of acquisition accounting and all of our non-current 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 10. For information regarding our acquisitions and non-current assets, see notes 5 and 7, respectively.

Income Tax Accounting

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 or substantially 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 recognized to the extent that the realization of them is considered probable. Recognizing deferred tax assets requires us to make assessments about the timing of future events, including the probability of expected future taxable income and available tax planning strategies. At December 31, 2022, the aggregate of unrecognized deferred tax assets was $1,548.7 million. 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, 2022 consolidated statement of financial position 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 the 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.

Tax laws in jurisdictions in which we have a presence are subject to varied interpretation, and many tax positions we take are subject to significant 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 considered probable that the position will be sustained upon examination. The determination of whether the tax position meets the probable threshold requires a facts-based judgment using all information available. In a number of cases, we have concluded that the probable threshold is not met and, accordingly, the amount of tax benefit recognized in the consolidated financial statements is different than the amount taken or expected to be taken in our tax returns.

Principles of Consolidation

The accompanying consolidated financial statements include our accounts and the accounts of all entities controlled by the company. Liberty Global controls an entity if we are exposed to variable returns from our involvement with the entity and we have the ability to affect those returns through our power over the respective entity. Such entities are included in the consolidated financial statements from the date that control commences until the date that control ceases. All significant intra-group balances and transactions have been eliminated in preparing the consolidated financial statements.

When control over an entity is lost, we derecognize the assets and liabilities of the entity, and any related non-controlling interests and other components of equity. Any resulting gain or loss is recognized in profit or loss. Any interest retained in the entity is measured at fair value when control is lost.

Going Concern

The accompanying financial statements are prepared under the assumption that we will continue to operate as a going concern, which contemplates the realization of assets and the liquidation of liabilities in the ordinary course of business. Our ability to continue as a going concern is dependent upon our ability to generate sufficient cash flows and earnings from our group undertakings' operations.

We have evaluated and consider our business to be a going concern for at least, but not limited to, the twelve-month period from the issuance date of our annual financial statements, the going concern assessment period. Our evaluation considered a plausible downside scenario from our estimates and was based on our capital resources, the historical operating profitability of our group undertakings, the long-term nature of our commitments and the prospects of our group undertakings.

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 non-current assets or repay non-current debt are classified as non-current assets. All other cash that is restricted to a specific use is classified as current or non-current based on the expected timing of the disbursement.

Our significant non-cash investing and financing activities are disclosed in our consolidated statements of changes in equity and in notes 7, 9, 15 and 16.

Cash Flow Statement

For purposes of our consolidated statements of cash flows, operating-related expenses financed by an intermediary are treated as constructive operating cash outflows and constructive financing cash inflows when the intermediary settles the liability with the vendor as there is no actual cash outflow until we pay the financing intermediary. When we pay the financing intermediary, we record financing cash outflows in our consolidated statements of cash flows. The capital expenditures we report in our consolidated statements of cash flows do not include amounts that are financed under capital-related vendor financing or lease arrangements. Instead, these amounts are reflected as non-cash additions to our property, equipment and intangible assets when the underlying assets are delivered, and as repayments of debt when the principal is repaid.

Trade Receivables

Our trade receivables are initially measured at fair value and subsequently reported at amortized cost, net of an allowance for impairment of trade receivables. The allowance for impairment of trade receivables is estimated based upon our current estimate of lifetime expected credit losses 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. For additional information regarding our trade receivable and allowance for impairment of trade receivables, see note 12.

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

Associates and Joint Ventures

Associates are entities where the company has significant influence, but not control or joint control, over the relevant activities of the entity. Joint ventures are joint arrangements whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement.

Interests in associates and joint ventures are accounted for under the equity method, and are initially recognized at cost, which includes transaction costs. These consolidated financial statements include the company’s share of the total recognized gains and losses of associates and joint ventures using the equity method, from the date that significant influence or joint control commences to the date that it ceases, based on present ownership interests and excluding the possible exercise of potential voting rights, less any impairment losses. Intercompany profits on transactions with associates or joint ventures for which assets remain in our or our investee's statement of financial position are eliminated to the extent of our ownership in the investee. When the company’s investment in an associate or joint venture has been reduced to zero because the company’s share of losses exceeds its investment in the associate or joint venture, the company only provides for additional losses to the extent that it has incurred legal or constructive obligations to fund such losses, or where the company has made payments on behalf of the associate or joint venture. Where the disposal of an investment in an associate or joint venture is considered to be highly probable, the investment ceases to be equity accounted and, instead, is classified as held for sale and stated at the lower of carrying amount and fair value less costs to sell.

Other Investments

We account for our other investments at fair value through profit or loss as these investments are managed and evaluated on a fair value basis. Under the fair value method, other investments are recorded at fair value and any changes in fair value are reported in realized and unrealized gains or losses due to changes in fair values of certain investments, net, in our consolidated statements of profit or loss.

Other investments are recognized and derecognized on a trade date where a purchase or sale of an investment is under a contract whose terms require delivery of the investment within the timeframe established by the market concerned, and are initially measured at fair value. All costs directly associated with the acquisition of an investment to be accounted for under the fair value method are expensed as incurred.

In addition, we determine the appropriate classification of our investments in debt securities at the time of purchase based on the underlying nature and characteristics of each security. All of our debt securities are classified as available for sale and are reported at fair value. Any interest received on our debt securities is reported as interest income in our consolidated statements of profit or loss.

Dividend distributions from publicly-traded investees that are not accounted for under the equity method are recognized when declared as dividend income in our consolidated statements of profit or loss. Dividend distributions from our equity method investees and all of our privately-held investees are reflected as reductions in the carrying values of the applicable investments. Dividend distributions that are deemed to be (i) returns on our investments are included in cash flows from operating activities in our consolidated statements of cash flows and (ii) returns of our investments are included in cash flows from investing activities in our consolidated statements of cash flows. Realized gains and losses are determined on an average cost basis.

Non-Derivative Financial Instruments

Cash and cash equivalents, current trade and other receivables, related-party receivables and payables, certain other current assets, accounts payable, certain accrued liabilities and value-added taxes (**VAT**) payable represent financial instruments that are initially recognized at fair value and subsequently carried at amortized cost. Due to their relatively short maturities, the carrying values of these financial instruments approximate their respective fair values.

Loans and other receivables are financial assets with fixed or determinable payments that are not quoted in an active market. Such loans and other receivables are recognized initially at fair value plus any directly attributable transaction costs. Subsequent to initial recognition, loans and receivables are measured at amortized cost using the effective interest method, less any impairment losses.

The company initially recognizes loans and receivables on the date they are originated. All other financial assets (including assets designated as fair value through the statement of profit or loss) are recognized initially on the trade date, which is the date that the company becomes a party to the contractual provisions of the instrument.

The company derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. Any interest in such transferred financial assets that is created or retained by the company is recognized as a separate asset or liability.

The company initially recognizes debt securities issued and subordinated liabilities on the date that they are originated. All other financial liabilities are recognized initially on the trade date, which is the date that the company becomes a party to the contractual provisions of the instrument.

The company derecognizes a financial liability when its contractual obligations are discharged, cancelled or expire.

For information regarding the fair values of certain of our investments, derivatives and debt, see notes 8, 9 and 15, respectively. For information regarding how we arrive at certain of our fair value measurements, see note 10.

All loans and borrowings are initially recognized at fair value less directly attributable transaction costs. After initial recognition, interest bearing loans and borrowings are subsequently measured at amortized cost using the effective interest method. Gains and losses arising on the repurchase, settlement or otherwise cancellation of liabilities are recognized respectively in interest income or expense. Finance costs which are incurred in connection with the issuance of debt are deferred and set off against the borrowings to which they relate. Deferred finance costs are amortized over the term of the related debt using the effective interest method.

Derivative Instruments

All derivative instruments, whether designated as hedging relationships or not, are recorded in the statements of financial position at fair value. We generally do not apply hedge accounting to our derivative instruments, therefore changes in the fair value of derivative instruments are recognized in profit or loss.

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 additional information regarding our derivative instruments, see note 9.

Property and Equipment

Property and equipment are measured at initial cost less accumulated depreciation and any accumulated impairment losses. When parts of an item of property and equipment have different useful lives, they are accounted for as separate items (major components) of property and equipment. We capitalize costs associated with the construction of new fixed and mobile transmission and distribution facilities and the installation of new fixed-line 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 fixed-line system to a customer location, (ii) the replacement of a drop and (iii) the installation of equipment for additional services, such as broadband internet or fixed-line services. The costs of other customer-facing activities, such as reconnecting and disconnecting customer locations and repairing or maintaining drops, are expensed as incurred. Financing costs capitalized with respect to construction activities was not material during any of the periods presented.

Depreciation is computed using the straight-line method over the estimated useful life of each major component of an item of property and equipment. Assets held under leases are 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 reviewed at each reporting date and are adjusted if appropriate. The useful lives of fixed 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 information regarding the useful lives of our property and equipment, see note 7.

Subsequent costs are included in the assets' carrying amount or recognized as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the expenditure will be achieved and when the cost can be measured reliably. All other expenditures for repairs and maintenance are expensed as incurred.

Gains and losses due to disposals are included in impairment, restructuring and other operating items, net.

Intangible Assets

Our primary intangible assets relate to goodwill, customer relationships, cable television franchise rights and software costs. Goodwill represents the excess purchase price over the fair value of the identifiable net assets acquired in a business combination. Customer relationships and cable television franchise rights are initially recorded at their fair values in connection with business combinations.

Goodwill and other intangible assets with indefinite useful lives are not amortized, but instead are tested for impairment at least annually. Intangible assets with finite lives are amortized on a straight-line basis over their respective estimated useful lives, and reviewed for indications of impairment at each reporting date. Amortization methods and useful lives are reviewed at each reporting date and are adjusted if appropriate.

Costs that are directly associated with the production of identifiable and unique software products controlled by the company, and that are expected to generate economic benefits beyond one year, are recognized as intangible assets. Capitalized internal-use software costs include only external direct costs of materials and services consumed in developing or obtaining the software and payroll and payroll-related costs for employees who are directly associated with the project. Capitalization of these costs ceases no later than the point at which the project is substantially complete and ready for its intended purpose. Internally-generated intangible assets are amortized on a straight-line basis over their useful lives. Costs associated with maintaining computer software are recognized as an expense as incurred.

We do not amortize our cable television franchise rights and certain other intangible assets as these assets have indefinite lives. For information regarding the useful lives of our intangible assets, see note 7.

Subsequent expenditures related to intangible assets are capitalized only when the expenditures increase the future economic benefits embodied in the specific asset to which it relates. All other expenditures, including expenditures on internally generated brands, are expensed as incurred.

Leases

On the lease commencement date, we recognize (i) right-of-use (**ROU**) assets representing our right to use an underlying asset and (ii) lease liabilities representing our obligation to make lease payments over the lease term. Lease and non-lease components in a contract are generally accounted for separately.

We initially measure lease liabilities at the present value of the remaining lease payments over the lease term. Options to extend or terminate the lease are included only when it is reasonably certain that we will exercise that option. As most of our leases do not provide enough information to determine an implicit interest rate, we generally use a portfolio level incremental borrowing rate in our present value calculation. We initially measure ROU assets at the value of the lease liability, plus any initial direct costs and prepaid lease payments, less any lease incentives received.

ROU assets are generally depreciated on a straight-line basis over the shorter of the lease term or the useful life of the asset. Interest expense on the lease liability is recorded using the effective interest method.

Provisions

A provision is recognized when a present legal or constructive obligation as a result of a past event exists, it is probable (more likely than not) that an outflow of resources will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

If the effect of the time value of money is material, provisions are discounted using a pre-tax rate reflecting, where appropriate, the risks specific to the liability. When discounting is used, the increase in the provision due to the passage of time is recognized as finance cost.

A provision for restructuring is recognized when management has approved a detailed and formal restructuring plan and the restructuring has either commenced or has been announced to the parties concerned. For additional information on our restructuring provisions, see note 17.

A provision for asset retirement obligations is recognized related to dismantling and removing items at leased property and restoring the site on which these items are located after termination of the lease agreement.

A provision for onerous contracts is recognized when the expected benefits to be derived from a contract are lower than the unavoidable costs of meeting its obligations under the contract. The provision is measured at the present value of the lower of the expected cost of terminating the contract and the expected net cost of continuing with the contract. Before a provision is established, we recognize an impairment loss on the assets associated with the respective contract. For additional information on onerous contract provisions, see note 17.

A provision for payroll taxes incurred in connection with the vesting or exercise of our share-based incentive awards is recognized as the awards vest in relation to the services as they are received during the vesting period. For additional information on share-based incentive awards, see "Share-based Compensation" discussion below and note 14.

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 or substantively 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. We recognize the financial statement effects of a tax position when it is probable, based on technical merits, that the position will be sustained upon examination. Net deferred tax assets are then recognized to the extent that realization is considered probable. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the period that includes the enactment or substantive enactment date. Deferred tax liabilities related to investments in foreign subsidiaries and foreign corporate joint ventures that are essentially permanent in duration are not recognized until it becomes apparent that such amounts will reverse in the foreseeable future. In order to be considered essentially permanent in duration, sufficient evidence must indicate that the foreign subsidiary has invested or will invest its undistributed earnings indefinitely, or that earnings will be remitted in a tax-free manner. The 2017 Tax Cuts and Jobs Act created a requirement that certain income earned by foreign subsidiaries, known as global intangible low-taxed income (**GILTI**), must be included in the gross income of their U.S. shareholder. We have elected to treat the tax effect of GILTI as a current-period expense when incurred.

Foreign Currency Translation and Transactions

The reporting currency of our company is the U.S. dollar. The functional currency of our foreign operations generally is the applicable local currency for each foreign subsidiary and equity method investee. Assets and liabilities of foreign subsidiaries (including intercompany balances for which settlement is not anticipated in the foreseeable future) are translated at the spot rate in effect at the applicable reporting date. With the exception of certain material transactions, the amounts reported in our consolidated statements of profit or loss are translated at the average exchange rates in effect during the applicable period. The resulting unrealized cumulative translation adjustment, net of applicable income taxes, is recorded as a component of accumulated other comprehensive income or loss in our consolidated statements of changes in equity. With the exception of certain material transactions, the cash flows from our operations in foreign countries are translated at the average rate for the applicable period in our consolidated statements of cash flows. The impacts of material transactions generally are recorded at the applicable spot rates in our consolidated statements of profit or loss and cash flows. The effect of exchange rates on cash balances held in foreign currencies are separately reported in our consolidated statements of cash flows.

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

Revenue Recognition

Service Revenue — Fixed Networks. We recognize revenue from the provision of broadband internet, video and fixed-line telephony services over our network to customers in the period 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 network are generally deferred and recognized as revenue over the contractual period, or longer if the upfront fee results in a material renewal right.

Sale of Multiple Products and Services. We sell broadband internet, video, fixed-line telephony and, in most of our markets, mobile services to our customers in bundled packages at a rate lower than if the customer purchased each product on a standalone basis. Revenue from bundled packages generally is allocated proportionally to the individual products or services based on the relative standalone 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 standalone selling prices of each component. In markets where we offer handsets and airtime services in separate contracts entered into at the same time, we account for these contracts as a single contract.

Mobile Revenue — Airtime Services. We recognize revenue from mobile services in the period in which the related services are provided. Revenue from prepaid customers is deferred prior to the commencement of services and recognized as the services are rendered or usage rights expire.

Mobile Revenue — Handset Revenue. Revenue from the sale of handsets is recognized at the point in which the goods have been transferred to the customer. Some of our mobile handset contracts that permit the customer to take control 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 any significant financing component as revenue over the contractual period using the effective interest method. We do not record the effect of a significant financing component if the contractual period is less than one year.

B2B 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, generally over the longer of the term of the arrangement or the expected period of performance. From time to time, we also enter into agreements with certain B2B customers pursuant to which they are provided the right to use certain elements of our network. If these agreements are determined to contain a lease that meets the criteria to be considered a sales-type lease, we recognize revenue from the lease component when control of the network element is transferred to the customer.

Other Revenue — Services to Affiliates. We provide certain services to the VMO2 JV and the VodafoneZiggo JV, which consist primarily of (i) technology and other services and (ii) capital-related expenditures for assets that will be used by or will otherwise benefit the VMO2 JV and the VodafoneZiggo JV. We recognize revenue from services to affiliates in the period in which the related services are provided.

Contract Costs. Incremental costs to obtain a contract with a customer, such as incremental sales commissions, are generally recognized as assets and amortized to SG&A expenses over the applicable period benefited, which generally is the contract life. If, however, the amortization period is less than one year, we expense such costs in the period incurred. Contract fulfillment costs, such as costs for installation activities for B2B customers, 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.

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. If a contract does not have substantive termination penalties, revenue is recognized only to the extent of the discounted monthly fees charged to the subscriber, if any.

Subscriber Advance Payments. 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 VAT. Revenue is recorded net of applicable sales, use and other VAT.

For additional information regarding our revenue recognition and related costs, see note 4. For additional information regarding services provided to our affiliates, see note 8. For a disaggregation of our revenue by major category and by reportable and geographic segment, see note 19.

Programming Costs

Programming costs include (i) agreements to distribute channels to our customers, (ii) exhibition rights or programming content and (iii) sports rights.

Channel Distribution Agreements. Our channel distribution agreements are generally multi-year contracts for which we are charged either (i) variable rates based upon the number of subscribers or (ii) on a flat fee basis. Certain of our variable rate

contracts require minimum guarantees. Programming costs under such arrangements are recorded in costs of services in our consolidated statement of profit or loss when the programming is available for viewing.

Exhibition Rights. Our agreements for exhibition rights are generally multi-year license agreements for which we are typically charged either (i) a percentage of the revenue earned per program or (ii) a flat fee per program. The current and non-current portions of our exhibition rights acquired under licenses are recorded as other current assets and other assets, net, respectively, in our consolidated statements of financial position when the license period begins and the program is available for its first showing. Capitalized exhibition rights are amortized based on the projected future showings of the content using a straight-line or accelerated method of amortization, as appropriate. Exhibition rights are regularly reviewed for impairment and held at the lower of unamortized cost or estimated net realizable value.

Sports Rights. Our sports rights agreements are generally multi-year contracts for which we are typically charged a flat fee per season. We typically pay for sports rights in advance of the respective season. The current and non-current portions of any payments made in advance of the respective season are recorded as other current assets and other assets, net, respectively, in our consolidated statements of financial position and are amortized on a straight-line basis over the respective sporting season. Sports rights are regularly reviewed for impairment and held at the lower of unamortized cost or estimated net realizable value.

Share-based Compensation

We recognize all share-based payments to employees, including grants of employee share-based incentive awards, based on their grant-date fair values and our estimates of forfeitures. We recognize share-based compensation expense as a charge to operations over the vesting period based on the grant-date fair value of outstanding awards, which may differ from the fair value of such awards on any given date. The cash benefits of tax deductions in excess of deferred taxes on recognized share-based compensation expense are reported as cash flows from operating activities. Payroll taxes incurred in connection with the vesting or exercise of our share-based incentive awards is recorded as a component of share-based compensation expense in our consolidated statements of profit or loss.

The grant date fair values for options, share appreciation rights (**SARs**) and performance-based share appreciation rights (**PSARs**) are estimated using the Black-Scholes option pricing model, and the grant date fair values for restricted share units (**RSUs**), restricted share awards (**RSAs**) and performance-based restricted share units (**PSUs**) are based upon the closing share price of Liberty Global ordinary shares on the date of grant. We consider historical exercise trends in our calculation of the expected life of options and SARs granted by Liberty Global to employees. The expected volatility for options and SARs related to our ordinary shares is generally based on a combination of (i) historical volatilities for a period equal to the expected average life of the awards and (ii) volatilities implied from publicly-traded options for our shares.

We generally issue new Liberty Global ordinary shares when Liberty Global options or SARs are exercised, when RSUs and PSUs vest and when RSAs are granted. Our company settles SARs and PSARs on a net basis when exercised by the award holder, whereby the number of shares issued represents the excess value of the award based on the market price of the respective Liberty Global shares at the time of exercise relative to the award's exercise price. In addition, the number of shares issued is further reduced by the amount of the employee's required income tax withholding.

Although we repurchase Liberty Global ordinary shares from time to time, the parameters of our share purchase and redemption activities are not established with reference to the dilutive impact of our share-based compensation plans.

For additional information regarding our share-based compensation, see note 14.

Litigation Costs

Legal fees and related litigation costs are expensed as incurred.

Earnings or Loss per Share

Basic earnings or loss per share (**EPS**) is computed by dividing net profit or loss by the weighted average number of shares outstanding for the period. Diluted EPS presents the dilutive effect, if any, on a per share basis of potential shares (e.g., options, SARs, RSUs, RSAs, PSARs and PSUs) as if they had been exercised, vested or converted at the beginning of the periods presented.

The details of our net profit from continuing operations attributable to Liberty Global shareholders are set forth below:

	Year ended December 31,	
	2022	2021
	in millions, except share amounts	
Profit from continuing operations	$ 2,473.9	$ 14,048.8
Net profit from continuing operations attributable to noncontrolling interests	(421.7)	(181.8)
Net profit from continuing operations attributable to Liberty Global shareholders	$ 2,052.2	$ 13,867.0
Weighted average shares outstanding (basic EPS computation)	489,555,582	555,695,224
Incremental shares attributable to the assumed exercise of outstanding options and SARs and the release of RSUs, RSAs and PSUs upon vesting (treasury stock method)	7,433,268	13,418,999
Weighted average ordinary shares outstanding (diluted EPS computation)	496,988,850	569,114,223

The calculation of diluted earnings per share excludes a total of 59.5 million and 47.9 million options, SARs and RSUs during 2022 and 2021, respectively, because their effect would have been anti-dilutive.

(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 over the contract period and accrued revenue for handset sales. Our contract assets were $33.3 million and $29.7 million as of December 31, 2022 and 2021, respectively. The non-current and current portions of our contract asset balances are included within other assets, net, and other current assets, respectively, in our consolidated statements of financial position.

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 $272.5 million and $286.5 million as of December 31, 2022 and 2021, respectively. The decrease in deferred revenue during 2022 is primarily due to the net effect of (a) the recognition of $217.1 million of revenue that was included in our deferred revenue balance at December 31, 2021 and (b) the impact of additions during the period. The non-current portion of our deferred revenue balances are included within other non-current liabilities in our consolidated statements of financial position.

Contract Costs

Our aggregate assets associated with incremental costs to obtain and fulfill our contracts were $69.4 million and $63.4 million at December 31, 2022 and 2021, respectively. The current and non-current portions of our assets related to contract costs are included within other current assets and other assets, net, respectively, in our consolidated statements of financial position. During 2022 and 2021, we amortized $16.0 million and $81.3 million, respectively, to operating costs and expenses associated with these assets.

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 is generally recognized over the term of such contracts, which is typically 12 months for our residential service contracts, one to three years for our mobile service contracts and one to five years for our B2B service contracts.

(5) Acquisition

Pending Transaction

Telenet NetCo Transaction. On July 19, 2022, Telenet and Fluvius System Operator CV (**Fluvius**) entered into an agreement to create an independent, self-funding infrastructure company (**NetCo**) within their combined geographic footprint in Belgium. The companies will each contribute certain cable infrastructure assets with Telenet and Fluvius initially owning 66.8% and 33.2% of NetCo, respectively. Telenet and Liberty Global will consolidate NetCo upon closing of the transaction, which we currently expect to occur in mid-2023. The closing of the transaction is subject to the satisfaction of certain conditions, including regulatory conditions and approval from Fluvius shareholders.

(6) Dispositions

2022 Dispositions

UPC Poland

On April 1, 2022, we completed the sale of 100% of our operations in Poland (**UPC Poland**) to a subsidiary of iliad S.A. (**iliad**). After considering debt and working capital adjustments (including cash disposed), we received net cash proceeds of Polish zloty 6,520.4 million ($1,553.3 million at the transaction date).

A portion of the net proceeds from the sale, after reflecting the impact of derivative settlements, was used to repurchase certain of UPC Holding's outstanding indebtedness, with the remainder available for general corporate purposes. For additional information regarding these financing transactions, see note 14.

In connection with the sale of UPC Poland, we recognized a gain of $735.3 million, which includes a cumulative foreign currency translation loss of $100.2 million. No income taxes were required to be provided on this gain.

In connection with the sale of UPC Poland, we have agreed to provide certain transitional services to iliad for a period of up to five years, depending on the service. These services principally comprise network and information technology-related functions. The annual charges will depend on the actual level of services required by the purchaser. During 2022, we recorded revenue of $26.6 million associated with these transitional services.

UPC Poland is presented as a discontinued operation in our consolidated financial statements for all applicable periods. Effective with the signing of the sale and purchase agreement on September 22, 2021, we ceased to depreciate or amortize the associated long-lived assets. Our operations in Poland were held through UPC Holding prior to the disposal date. No debt, interest or derivative instruments of the UPC Holding borrowing group have been allocated to discontinued operations. Prior to being presented as a discontinued operation, the operations of UPC Poland were included in our former "*Central and Eastern Europe*" reportable segment.

The carrying amounts of the major classes of assets and liabilities of UPC Poland as of December 31, 2021 are summarized in the following table (in millions):

Assets:	
Property and equipment, net	$ 388.7
Goodwill	464.7
Other assets, net	47.7
Current assets	23.4
Total	$ 924.5
Liabilities:	
Non-current debt and lease obligations	$ 22.8
Other non-current liabilities	38.3
Other accrued and current liabilities	93.2
Current portion of debt and lease obligations	47.0
Total	$ 201.3

The operating results of UPC Poland for 2022 and 2021 are summarized in the following table. These amounts exclude intercompany revenue and expenses that are eliminated within our consolidated statements of profit or loss.

	Year ended December 31,	
	2022 (a)	2021
	in millions	
Revenue	$ 109.5	$ 454.8
Operating income	$ 45.2	$ 134.5
Profit before income taxes	$ 43.9	$ 130.6
Income tax expense	(9.3)	(48.1)
Net profit attributable to Liberty Global shareholders	$ 34.6	$ 82.5

____

(a) Includes the operating results of UPC Poland from January 1, 2022 to April 1, 2022, the date UPC Poland was sold.

Telenet Tower Sale

On June 1, 2022, Telenet completed the sale of substantially all of its passive infrastructure and tower assets to DigitalBridge Investments LLC (**DigitalBridge**) (the **Telenet Tower Sale**). After considering working capital adjustments, we received net cash proceeds of €733.0 million ($779.9 million at the transaction date). Effective with the signing of the sale and purchase agreement on March 25, 2022, we began accounting for the associated assets and liabilities as held for sale and, accordingly, we ceased to depreciate or amortize these non-current assets.

In connection with the completion of the Telenet Tower Sale, we recognized a gain of $391.9 million. No income taxes were required to be provided on this gain.

As part of the Telenet Tower Sale, Telenet entered into a master lease agreement to lease back the passive infrastructure and tower assets from DigitalBridge for an initial period of 15 years (the **Telenet Tower Lease Agreement**). In connection with the Telenet Tower Lease Agreement, we recorded non-cash additions to our lease ROU assets of $302.9 million and a corresponding increase to our lease liabilities of $615.1 million.

In addition, as part of the Telenet Tower Lease Agreement, Telenet has also committed to lease back 475 build-to-suit sites over the term of the lease. As of December 31, 2022, the total U.S. dollar equivalent of the estimated future payments for the build-to-suit sites over the term of the lease was $121.0 million, the majority of which are due after 2027. Telenet will act as an agent over the construction of future towers on the build-to-suit sites.

2021 Dispositions

U.K. JV Transaction

On June 1, 2021, pursuant to a Contribution Agreement dated May 7, 2020 (the **Contribution Agreement**) with, among others, Telefónica, (i) we contributed Virgin Media's U.K. operations and certain other Liberty Global subsidiaries (together, the **U.K. JV Entities**) to the VMO2 JV and (ii) Telefónica contributed its U.K. mobile business to the VMO2 JV, creating a nationwide integrated communications provider (herein referred to as the "**U.K. JV Transaction**"). We account for our 50% interest in the VMO2 JV as an equity method investment, as further described in note 8.

In connection with the U.K. JV Transaction, we received net cash of $108.6 million, which includes the net impact of (i) equalization payments received from Telefónica, (ii) our share of the proceeds associated with related recapitalization financing transactions completed by the VMO2 JV and (iii) $44.5 million of cash paid by Liberty Global to settle certain centrally-held vendor financing obligations associated with the VMO2 JV.

In connection with the U.K. JV Transaction, we recognized a pre-tax gain of $10,841.4 million, net of the recognition of a cumulative foreign currency translation loss of $639.1 million. This gain was calculated by deducting the carrying value of the U.K. JV Entities (including the related foreign currency translation loss) from the sum of (i) the fair value assigned to our 50% interest in the VMO2 JV and (ii) the net cash received pursuant to the equalization payments and recapitalization transactions described above. For information regarding our approach to the valuation of our interest in the VMO2 JV, see note 10.

A summary of the fair value of the assets and liabilities of the VMO2 JV at the June 1, 2021 transaction date is presented in the following table. The opening balance sheet presented below reflects the final purchase price allocation (in millions):

Property and equipment, net	$ 14,004.7
Intangible assets subject to amortization, net	32,025.9
Other assets, net	13,107.1
Current assets	3,466.2
Non-current debt and lease obligations	(22,353.4)
Other non-current liabilities	(1,834.7)
Other accrued and current liabilities	(5,363.7)
Current portion of debt and lease obligations	(3,633.1)
Total fair value of the net assets of the VMO2 JV	$ 29,419.0

For periods prior to the June 1, 2021 completion of the U.K. JV Transaction, our consolidated statements of profit or loss include aggregate profit before income taxes attributable to the U.K. JV Entities of $893.9 million and $572.4 million during 2021 and 2020, respectively.

Effective with the signing of the Contribution Agreement, we began accounting for the U.K. JV Entities as held for sale. Accordingly, we ceased to depreciate or amortize the long-lived assets of the U.K. JV Entities. However, the U.K. JV Entities were not presented as discontinued operations as the U.K. JV Transaction did not represent a strategic shift.

The June 1, 2021 carrying amounts of the major classes of assets and liabilities associated with the U.K. JV Entities, which were contributed to the VMO2 JV, are summarized below (in millions):

Assets:	
Property and equipment, net	$ 9,263.5
Goodwill	8,214.7
Other assets, net	3,927.6
Current assets (a)	4,868.3
Total (b)	$ 26,274.1
Liabilities:	
Non-current debt and lease obligations	$ 17,218.7
Other non-current liabilities	1,602.4
Other accrued and current liabilities	2,205.7
Current portion of debt and lease obligations	3,259.1
Total (b)	$ 24,285.9

(a) Amount includes $3.4 billion of net proceeds from certain financing transactions completed in 2020 that were held in escrow pending the completion of the U.K. JV Transaction.

(b) The carrying amount of the net assets of $1,988.2 million presented above is net of the cumulative foreign currency translation loss of $639.1 million.

AtlasEdge JV Transactions

On September 1, 2021, we (i) contributed certain assets and liabilities to a newly-formed 50:50 joint venture (the **AtlasEdge JV**) that was established for the purpose of acquiring and commercializing European technical real estate for edge colocation and hosting services and (ii) sold certain other assets to the AtlasEdge JV. In addition, we sold certain additional assets to the AtlasEdge JV during the fourth quarter of 2021. In connection with these transactions, which we collectively refer to as the "**AtlasEdge JV Transactions**", we (a) received net cash of $144.5 million and (b) recognized a pre-tax gain of $211.3 million (net of the recognition of a cumulative foreign currency translation loss of $1.8 million), representing the difference between the estimated fair value and the carrying value of the net assets associated with these transactions. We account for our interest in the AtlasEdge JV as an equity method investment.

(7) Non-Current Assets

A summary of our property and equipment, goodwill and intangible assets is set forth below:

	December 31, 2022	December 31, 2021
	in millions	
Property and equipment, net	$ 6,517.1	$ 6,854.9
Goodwill	9,326.7	9,534.7
Intangible assets subject to amortization, net	3,718.7	3,818.5
Intangible assets not subject to amortization (a)	3.0	3.0
Total	$ 19,565.5	$ 20,211.1

(a) Intangible assets not subject to amortization are included in other assets, net, in our consolidated statements of financial position.

Property and Equipment, Net

At December 31, 2022, the estimated useful life for assets categorized as distribution systems, customer premises equipment (**CPE**) and support equipment, buildings and land was 3 to 30 years, 4 to 7 years and 3 to 33 years, respectively. Changes during 2022 in the carrying amounts of our property and equipment, net, are as follows:

	Distribution systems	Customer premises equipment	Support equipment, buildings and land	Total
	in millions			
Cost:				
January 1, 2022	$ 9,747.7	$ 1,290.3	$ 2,300.7	$ 13,338.7
Additions	571.9	255.7	468.9	1,296.5
Additions from business combinations	1.6	—	2.9	4.5
Impairment	(1.4)	(0.1)	—	(1.5)
Retirements and disposals	(598.5)	(87.7)	(151.5)	(837.7)
Foreign currency translation adjustments and other	(533.9)	(116.1)	257.6	(392.4)
December 31, 2022	$ 9,187.4	$ 1,342.1	$ 2,878.6	$ 13,408.1
Accumulated depreciation:				
January 1, 2022	$ (5,328.7)	$ (636.0)	$ (519.1)	$ (6,483.8)
Depreciation	(709.0)	(192.1)	(322.5)	(1,223.6)
Retirements and disposals	405.3	87.3	151.3	643.9
Foreign currency translation adjustments and other	187.6	24.6	(39.7)	172.5
December 31, 2022	$ (5,444.8)	$ (716.2)	$ (730.0)	$ (6,891.0)
Property and equipment, net:				
December 31, 2022	$ 3,742.6	$ 625.9	$ 2,148.6	$ 6,517.1

Changes during 2021 in the carrying amounts of our property and equipment, net, are as follows:

	Distribution systems	Customer premises equipment	Support equipment, buildings and land	Total
	in millions			
Cost:				
January 1, 2021	$ 10,361.8	$ 1,816.9	$ 2,753.0	$ 14,931.7
Additions	902.7	365.9	208.8	1,477.4
Additions from business combinations	0.9	—	—	0.9
Impairment	(11.6)	—	(2.2)	(13.8)
Reclassification to assets held for sale	(620.3)	(352.7)	(126.2)	(1,099.2)
Retirements and disposals	(887.8)	(557.5)	(309.6)	(1,754.9)
Foreign currency translation adjustments and other	2.0	17.7	(223.1)	(203.4)
December 31, 2021	$ 9,747.7	$ 1,290.3	$ 2,300.7	$ 13,338.7
Accumulated depreciation:				
January 1, 2021	$ (5,318.7)	$ (1,014.9)	$ (613.5)	$ (6,947.1)
Depreciation	(770.1)	(201.5)	(340.8)	(1,312.4)
Reclassification to assets held for sale	367.4	226.5	66.0	659.9
Retirements and disposals	380.5	348.6	217.3	946.4
Foreign currency translation adjustments and other	12.2	5.3	151.9	169.4
December 31, 2021	$ (5,328.7)	$ (636.0)	$ (519.1)	$ (6,483.8)
Property and equipment, net:				
December 31, 2021	$ 4,419.0	$ 654.3	$ 1,781.6	$ 6,854.9

Depreciation of property and equipment is included in costs of services and G&A expenses in our consolidated statements of profit or loss.

During 2022 and 2021, we recorded non-cash increases to our property and equipment related to vendor financing arrangements (including amounts related to the U.K. JV Entities through the closing of the U.K. JV Transaction) of $182.8 million and $661.1 million, respectively, which exclude related VAT of $21.2 million and $84.7 million, respectively, that were also financed under these arrangements.

Intangible Assets and Goodwill

At December 31, 2022, the estimated useful life for customer relationships, software and other intangibles subject to amortization was 5 to 11 years, 3 to 5 years and 2 to 20 years, respectively. Changes during 2022 in the carrying amounts of our intangible assets and goodwill are as follows:

	Goodwill	Customer relationships	Software	Other	Intangible assets not subject to amortization	Total
			in millions			
Cost:						
January 1, 2022	$ 9,534.7	$ 2,336.2	$ 3,772.7	$ 840.2	$ 3.0	$ 16,486.8
Additions	—	—	640.8	494.9	—	1,135.7
Additions from business combinations	39.1	8.3	1.9	7.2	—	56.5
Retirements and disposals	464.7	(4.3)	(886.3)	(18.3)	—	(444.2)
Reclassification to assets held for sale	(464.7)	(14.0)	(59.7)	—	—	(538.4)
Foreign currency translation adjustments and other	(247.1)	(36.3)	(515.3)	348.4	—	(450.3)
December 31, 2022	$ 9,326.7	$ 2,289.9	$ 2,954.1	$ 1,672.4	$ 3.0	$ 16,246.1
Accumulated amortization:						
January 1, 2022	$ —	$ (602.1)	$ (1,998.1)	$ (530.5)	$ —	$ (3,130.7)
Amortization	—	(351.1)	(708.1)	(103.6)	—	(1,162.8)
Retirements and disposals	—	8.8	923.1	18.3	—	950.2
Reclassification to assets held for sale	—	9.3	21.8	—	—	31.1
Foreign currency translation adjustments and other	—	2.9	166.9	(55.3)	—	114.5
December 31, 2022	$ —	$ (932.2)	$ (1,594.4)	$ (671.1)	$ —	$ (3,197.7)
Intangible assets, net:						
December 31, 2022	$ 9,326.7	$ 1,357.7	$ 1,359.7	$ 1,001.3	$ 3.0	$ 13,048.4

Changes during 2021 in the carrying amounts of our intangible assets and goodwill are as follows:

	Goodwill	Customer relationships	Software	Other	Intangible assets not subject to amortization	Total
	in millions					
Cost:						
January 1, 2021	$ 10,449.2	$ 2,426.6	$ 3,722.4	$ 814.1	$ 3.0	$ 17,415.3
Additions from business combinations	47.5	3.6	0.8	0.7	—	52.6
Additions	—	—	738.3	89.3	—	827.6
Reclassification to assets held for sale	(501.0)	(15.0)	(77.5)	—	—	(593.5)
Retirements and disposals	(296.1)	(32.0)	(653.7)	(8.1)	—	(989.9)
Foreign currency translation adjustments and other	(164.9)	(47.0)	42.4	(55.8)	—	(225.3)
December 31, 2021	$ 9,534.7	$ 2,336.2	$ 3,772.7	$ 840.2	$ 3.0	$ 16,486.8
Accumulated amortization:						
January 1, 2021	$ —	$ (246.4)	$ (1,754.8)	$ (461.9)	$ —	$ (2,463.1)
Amortization	—	(376.7)	(804.3)	(110.0)	—	(1,291.0)
Reclassification to assets held for sale	—	8.9	38.8	—	—	47.7
Retirements and disposals	—	28.1	568.2	8.1	—	604.4
Foreign currency translation adjustments and other	—	(16.0)	(46.0)	33.3	—	(28.7)
December 31, 2021	$ —	$ (602.1)	$ (1,998.1)	$ (530.5)	$ —	$ (3,130.7)
Intangible assets, net:						
December 31, 2021	$ 9,534.7	$ 1,734.1	$ 1,774.6	$ 309.7	$ 3.0	$ 13,356.1

Amortization of intangible assets is included in costs of services in our consolidated statements of profit or loss.

During the third quarter of 2022, Telenet acquired certain mobile spectrum licenses. In connection with this transaction, we recorded a non-cash increase of $384.1 million to our intangible assets subject to amortization.

The details of the carrying amount of our goodwill as of December 31, 2022 are as follows (in millions):

Switzerland	$ 6,515.1
Belgium	2,490.9
Ireland	259.5
Other	61.2
Total	$ 9,326.7

Goodwill and other intangible assets with indefinite useful lives are not amortized, but instead are tested for impairment at least annually. We evaluate the recoverable amount of each of our CGUs, using a fair value less costs to sell method. For each of our CGUs other than Belgium, our estimate of the recoverable amount is based primarily on observable EBITDA multiples for recent transactions and publicly-traded peer companies, which are Level 2 inputs in the fair value hierarchy. With respect to our evaluation of our CGU in Belgium, we compare the carrying value of our investment in Telenet to its fair value based on the quoted market price of Telenet's publicly-traded stock as of the measurement date, which is a Level 1 input in the fair value hierarchy. Based on the results of our 2022 quantitative goodwill impairment assessment, we determined that fair value exceeded carrying value for all of our CGUs.

If, among other factors, (i) our equity values were to decline or (ii) 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, 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 non-current assets. Any such impairment charges could be significant.

Land and Buildings

The details of our land and buildings are set forth below:

	December 31,	
	2022	2021
	in millions	
Freehold	$ 41.9	$ 38.9
Long leasehold (a)	36.2	41.5
Total	$ 78.1	$ 80.4

(a) Represents property and equipment subject to leases with an initial term of 50 years or more.

(8) Investments

The details of our investments are set forth below:

Accounting Method	December 31, 2022	December 31, 2021
	in millions	
Equity (a):		
Non-current:		
VMO2 JV	$ 11,537.4	$ 13,745.3
VodafoneZiggo JV (b)	2,341.1	2,559.6
All3Media Group (**All3Media**)	143.9	143.7
AtlasEdge JV	122.2	163.7
Formula E Holdings Ltd (**Formula E**)	87.3	115.9
Other	197.5	197.9
Total — equity	14,429.4	16,926.1
Fair value:		
Non-current:		
Televisa Univision, Inc. (**Televisa Univision**) (c)	385.5	385.5
ITV plc (**ITV**)	362.4	596.3
Lacework Inc. (**Lacework**)	242.8	269.1
Separately-managed accounts (**SMAs**) (d)	233.0	531.7
EdgeConneX Inc. (**EdgeConneX**)	183.8	138.7
Plume Design, Inc. (**Plume**)	154.0	188.8
Pax8, Inc. (**Pax8**)	99.0	14.7
Aviatrix Systems, Inc. (**Aviatrix**)	78.2	78.2
CANAL+ Polska S.A. (**CANAL+ Polska**)	66.1	70.8
Lions Gate Entertainment Corp (**Lionsgate**)	36.7	105.9
Other	287.1	348.0
Current:		
SMAs (d)	2,621.6	2,269.6
Total — fair value	4,750.2	4,997.3
Total investments (e)	$ 19,179.6	$ 21,923.4
Non-current investments	$ 16,558.0	$ 19,653.8
Current investments	$ 2,621.6	$ 2,269.6

(a) Our equity method investments are originally recorded at cost and are adjusted to recognize our share of net profit or loss of the affiliates as they occur rather than as dividend distributions are received, with our recognition of losses generally limited to the extent of our investment in, and loans and commitments to, the investee. Accordingly, the carrying values of our equity method investments may not equal the respective fair values. At December 31, 2022 and 2021, the aggregate carrying amounts of our equity method investments exceeded our proportionate share of the respective investee's net assets by $1,196.8 million and $1,236.0 million, respectively, which primarily includes amounts associated with the VodafoneZiggo JV Receivables, as defined below, and amounts we are owed under a non-current note receivable from All3Media. The aforementioned receivables are shown net of applicable allowances.

(b) Amounts include certain notes receivable due from a subsidiary of the VodafoneZiggo JV to a subsidiary of Liberty Global, comprising (i) a euro-denominated note receivable with a principal amount of $749.7 million and $797.1 million

at December 31, 2022 and 2021, respectively, (the **VodafoneZiggo JV Receivable I**) and (ii) a euro-denominated note receivable with a principal amount of $222.7 million and $236.7 million at December 31, 2022 and 2021, respectively, (the **VodafoneZiggo JV Receivable II** and, together with the VodafoneZiggo JV Receivable I, the **VodafoneZiggo JV Receivables**). During 2021, an additional $123.0 million was loaned under the VodafoneZiggo JV Receivable II to fund the VodafoneZiggo JV's final installment of spectrum license fees due to the Dutch government. The VodafoneZiggo JV Receivables bear interest at 5.55% and have a final maturity date of December 31, 2030. During 2022, interest accrued on the VodafoneZiggo JV Receivables was $53.8 million, all of which has been cash settled.

(c) At December 31, 2022, the fair value of our investment in Televisa Univision reflects the merger of Univision Holdings Inc. and Grupo Televisa, S.A.B., which was completed during the first quarter of 2022.

(d) Represents investments held under SMAs, which are maintained by investment managers acting as agents on our behalf. We classify, measure and report these investments, the composition of which may change from time to time, based on the underlying nature and characteristics of each security held under the SMAs. As of December 31, 2022, all of our investments held under SMAs were classified as available-for-sale debt securities, as further described in note 3. At December 31, 2022 and 2021, interest accrued on our debt securities, which is included in other current assets in our consolidated statements of financial position, was $18.5 million and $5.1 million, respectively.

(e) The purchase and sale of investments are presented on a gross basis in our consolidated statements of cash flows, including amounts associated with SMAs.

Equity Method Investments

Details of our equity method investments at December 31, 2022 are set forth below:

	Country of incorporation	Parent ownership %	Group ownership %	Holdings
VMO2 JV	U.K.	—%	50.0%	Shares
VodafoneZiggo JV	Netherlands	—%	50.0%	Shares
All3Media	U.K.	—%	50.0%	Shares
AtlasEdge JV	Luxembourg	—%	47.5%	Shares
Formula E	China	—%	35.9%	Shares
Other	Various	—%	Various	Various

The following table sets forth the details of our share of results of affiliates, net:

	Year ended December 31,	
	2022	2021
	in millions	
VMO2 JV (a)	$ 281.1	$ (126.6)
VodafoneZiggo JV (b)	236.5	(44.8)
Streamz B.V. (**Streamz**) (c)	(35.2)	(0.7)
Eltrona Interdiffusion S.A. (**Eltrona**) (d)	(34.2)	(17.2)
AtlasEdge JV	(23.3)	(5.8)
Formula E	(20.2)	(2.5)
All3Media	(10.0)	(17.4)
Other	12.3	(0.8)
Total	$ 407.0	$ (215.8)

____

(a) Represents (i) our 50% share of the results of operations of the VMO2 JV and (ii) 100% of the share-based compensation expense associated with Liberty Global awards granted to VMO2 JV employees who were formerly employees of Liberty Global prior to the VMO2 JV formation, as these awards remain our responsibility.

(b) Represents (i) our 50% share of the results of operations of the VodafoneZiggo JV and (ii) 100% of the interest income earned on the VodafoneZiggo JV Receivables.

(c) The 2022 amount includes a charge of $31.7 million related to a decline in fair value below the cost basis of the investment that was deemed other-than-temporary during the fourth quarter.

(d) The 2022 amount includes a charge of $32.5 million related to a decline in fair value below the cost basis of the investment that was deemed other-than-temporary during the fourth quarter.

VMO2 JV

On June 1, 2021, we completed the U.K. JV Transaction. Each of Liberty Global and Telefónica (each a "**U.K. JV Shareholder**") holds 50% of the issued share capital of the VMO2 JV. The U.K. JV Shareholders intend for the VMO2 JV to be funded solely from its net cash flows from operations and third-party financing. We account for our 50% interest in the VMO2 JV as an equity method investment and consider the VMO2 JV to be a related party. For additional information regarding the U.K. JV Transaction, see note 6.

In connection with the formation of the VMO2 JV, the U.K. JV Shareholders entered into an agreement (the **U.K. JV Shareholders Agreement**) that contains customary provisions for the governance of a 50:50 joint venture and provides Liberty Global and Telefónica with joint control over decision making with respect to the VMO2 JV.

The U.K. JV Shareholders Agreement also provides (i) for a dividend distribution policy that requires the VMO2 JV to distribute all unrestricted cash to the U.K. JV Shareholders on a pro rata basis (subject to the VMO2 JV maintaining a minimum amount of cash and complying with the terms of its financing arrangements) and (ii) that the VMO2 JV will be managed with a leverage ratio between 4.0 and 5.0 times EBITDA (as calculated pursuant to its existing financing arrangements), with the VMO2 JV undertaking periodic recapitalizations and/or refinancings accordingly. During 2022, we received dividend distributions from the VMO2 JV aggregating $932.5 million, of which $477.9 million was accounted for as a return of capital and $454.6 million was accounted for as a return on capital for purposes of our consolidated statements of cash flows. During 2021, we received a dividend distribution from the VMO2 JV of $214.8 million, which was accounted for as a return on capital for purposes of our consolidated statement of cash flows.

Each U.K. JV Shareholder has the right to initiate an initial public offering (**IPO**) of the VMO2 JV after the third anniversary of the closing, with the opportunity for the other U.K. JV Shareholder to sell shares in the IPO on a pro rata basis. Subject to certain exceptions, the U.K. JV Shareholders Agreement prohibits transfers of interests in the VMO2 JV to third parties until the fifth anniversary of the closing. After the fifth anniversary, each U.K. JV Shareholder will be able to initiate a sale of all of its interest in the VMO2 JV to a third party and, under certain circumstances, initiate a sale of the entire VMO2 JV; subject, in each case, to a right of first offer in favor of the other U.K. JV Shareholder.

Pursuant to an agreement entered into in connection with the closing of the VMO2 JV (the **U.K. JV Framework Agreement**), Liberty Global provides certain services to the VMO2 JV on a transitional or ongoing basis (collectively, the **U.K. JV Services**). Pursuant to the terms of the U.K. JV Framework Agreement, the ongoing services will be provided for a period of two to six years depending on the type of service, while transitional services will be provided for a period of no less than 12 months, after which both parties shall be entitled to terminate based on specified notice periods. The U.K. JV Services provided by Liberty Global consist primarily of (i) technology and other services and (ii) capital-related expenditures for assets that will be used by or will otherwise benefit the VMO2 JV. Liberty Global charges both fixed and variable fees to the VMO2 JV for the U.K. JV Services it provides during the term of the U.K. JV Framework Agreement. We recorded revenue related to the U.K. JV Services of $251.2 million and $170.1 million during 2022 and 2021, respectively. At December 31, 2022 and 2021, $37.0 million and $43.3 million, respectively, was due from the VMO2 JV, primarily related to (a) services performed under the U.K. JV Framework Agreement and (b) amounts incurred by Liberty Global for certain equipment and licenses purchased on behalf of the VMO2 JV. The amounts due from the VMO2 JV, which are periodically cash settled, are included in other current assets in our consolidated statement of financial position.

In July 2022, the VMO2 JV entered into a new long-term performance incentive plan (the **2022 VMO2 LTIP**) for certain of its employees, dependent on the achievement of specific performance metrics over each of the three years in the period beginning January 1, 2022 and ending on December 31, 2024. Payout may occur in March 2025 and will be settled in Liberty Global Class A and/or Liberty Global Class C ordinary shares and Telefónica ordinary shares, with the settlement split evenly between the U.K. JV Shareholders. Subject to forfeitures, 66.7% of each participant's payout will be earned on January 1, 2024 with the remainder earned on December 31, 2024. The 2022 VMO2 LTIP awards are liability classified due to the fact that the final payout will be a fixed monetary amount settled in a variable number of shares. At December 31, 2022, the estimated fair value of Liberty Global's share of the final payout under the 2022 VMO2 LTIP was $10.9 million. As the VMO2 JV will reimburse the U.K. JV Shareholders in cash for the value of each company's 50% payout of the 2022 VMO2 LTIP awards, a receivable from the VMO2 JV equal to the amount of the fair value of our share of the 2022 VMO2 LTIP liability is recorded in our consolidated statement of financial position.

The summarized results of operations of the VMO2 JV are set forth below:

	Year ended December 31,	
	2022	2021 (a)
	in millions	
Revenue	$ 12,817.8	$ 8,430.0
Depreciation and amortization	$ (4,397.0)	$ (2,795.0)
Interest expense	$ (1,073.9)	$ (573.0)
Profit (loss) before income taxes	$ 941.3	$ (179.7)
Income tax benefit (expense)	(8.9)	67.5
Net profit (loss)	$ 932.4	$ (112.2)

(a) Includes the operating results of the VMO2 JV for the period from June 1, 2021 through December 31, 2021.

The summarized financial position of the VMO2 JV is set forth below:

	December 31,	
	2022	2021
	in millions	
Non-current assets	$ 53,062.8	$ 56,581.6
Current assets (a)	3,546.3	3,633.6
Total assets	$ 56,609.1	$ 60,215.2
Equity	$ 25,883.0	$ 28,090.7
Non-current liabilities (b)	22,160.0	23,524.4
Current liabilities (c)	8,566.1	8,600.1
Total equity and liabilities	$ 56,609.1	$ 60,215.2

____

(a) Amounts include cash and cash equivalents of $55.7 million and $65.4 million, respectively.

(b) Amounts include non-current debt and lease obligations of $21.2 billion and $21.9 billion, respectively.

(c) Amounts include current debt and lease obligations of $3.6 billion and $3.2 billion, respectively.

VodafoneZiggo JV

Each of Liberty Global and Vodafone (each a "**NL JV Shareholder**") holds 50% of the issued share capital of the VodafoneZiggo JV. The NL JV Shareholders intend for the VodafoneZiggo JV to be funded solely from its net cash flows from operations and third-party financing. We account for our 50% interest in the VodafoneZiggo JV as an equity method investment and consider the VodafoneZiggo JV to be a related party.

In connection with the formation of the VodafoneZiggo JV, the NL JV Shareholders entered into an agreement (the **NL Shareholders Agreement**) that contains customary provisions for the governance of a 50:50 joint venture and provides Liberty Global and Vodafone with joint control over decision making with respect to the VodafoneZiggo JV.

The NL Shareholders Agreement also provides (i) for a dividend distribution policy that requires the VodafoneZiggo JV to distribute all unrestricted cash to the NL JV Shareholders every two months (subject to the VodafoneZiggo JV maintaining a minimum amount of cash and complying with the terms of its financing arrangements) and (ii) that the VodafoneZiggo JV will be managed with a leverage ratio of between 4.5 and 5.0 times EBITDA (as calculated pursuant to its existing financing arrangements), with the VodafoneZiggo JV undertaking periodic recapitalizations and/or refinancings accordingly. During 2022 and 2021, we received dividend distributions from the VodafoneZiggo JV of $266.6 million and $311.7 million, respectively, which were accounted for as returns on capital for purposes of our consolidated statements of cash flows.

Each NL JV Shareholder has the right to initiate an IPO of the VodafoneZiggo JV, with the opportunity for the other NL JV Shareholder to sell shares in the IPO on a pro rata basis. As of January 1, 2021, each NL JV Shareholder has the right 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 NL JV Shareholder.

Pursuant to an agreement (the **NL JV Framework Agreement**), Liberty Global provides certain services to the VodafoneZiggo JV (collectively, the **NL JV Services**). The NL JV Services provided by Liberty Global consist primarily of (i) technology and other services and (ii) capital-related expenditures for assets that will be used by, or will otherwise benefit, the VodafoneZiggo JV. Liberty Global charges both fixed and usage-based fees to the VodafoneZiggo JV for the NL JV Services provided during the term of the NL JV Framework Agreement. During 2022 and 2021, we recorded revenue from the VodafoneZiggo JV of $263.9 million and $222.0 million, respectively, primarily related to (a) the NL JV Services and (b) the sale of CPE to the VodafoneZiggo JV at a mark-up. At December 31, 2022 and 2021, $35.0 million and $62.5 million, respectively, were due from the VodafoneZiggo JV related to the aforementioned transactions. The amounts due from the

VodafoneZiggo JV, which are periodically cash settled, are included in other current assets in our consolidated statements of financial position.

The summarized results of operations of the VodafoneZiggo JV are set forth below:

	Year ended December 31,	
	2022	2021
	in millions	
Revenue	$ 4,284.6	$ 4,824.2
Depreciation and amortization	$ (1,620.4)	$ (1,889.0)
Interest expense	$ (606.4)	$ (605.0)
Profit (loss) before income taxes	$ 598.9	$ (107.7)
Income tax expense	(213.6)	(72.3)
Net profit (loss)	$ 385.3	$ (180.0)

The summarized financial position of the VodafoneZiggo JV is set forth below:

	December 31,	
	2022	2021
	in millions	
Non-current assets	$ 19,375.7	$ 20,351.9
Current assets (a)	802.6	902.8
Total assets	$ 20,178.3	$ 21,254.7
Equity	$ 2,807.0	$ 3,137.3
Non-current liabilities (b)	14,649.3	15,372.8
Current liabilities (c)	2,722.0	2,744.6
Total equity and liabilities	$ 20,178.3	$ 21,254.7

____

(a) Amounts include cash and cash equivalents of $100.3 million and $278.9 million, respectively.

(b) Amounts include non-current debt and lease obligations of $12.9 billion and $13.3 billion, respectively.

(c) Amounts include current debt and lease obligations of $1.2 billion and $1.2 billion, respectively.

Fair Value Investments

Details of our fair value investments at December 31, 2022 are set forth below:

	Country of incorporation	Parent ownership %	Group ownership %	Holdings
Televisa Univision	U.S.	—%	6.3%	Preferred shares
ITV	U.K.	—%	9.9%	Ordinary shares
Lacework	U.S.	—%	3.3%	Common and preferred shares
EdgeConneX	U.S.	—%	5.2%	Shares
Plume	U.S.	—%	11.5%	Common and preferred shares
Pax8	U.S.	—%	5.9%	Preferred shares
Aviatrix	U.S.	—%	3.8%	Preferred shares
CANAL+ Polska	Poland	—%	17.0%	Shares
Lionsgate	Canada	—%	2.9%	Common shares
Other	Various	—%	Various	Various

The following table sets forth the details of our realized and unrealized gains (losses) due to changes in fair values of certain investments, net:

	Year ended December 31,	
	2022	2021
	in millions	
ITV	$ (233.9)	$ 15.3
Pax8	79.3	—
Lionsgate	(69.2)	33.9
SMAs	(49.1)	(10.1)
EdgeConneX	43.4	28.9
Plume	(34.8)	171.2
Skillz, Inc. (**Skillz**)	(34.7)	(100.4)
TiBiT Communications, Inc. (**TiBiT**) (a)	26.4	—
Lacework	(26.3)	223.9
Televisa Univision	23.1	301.6
Aviatrix	—	65.4
Other, net (b)	(19.8)	39.7
Total	$ (295.6)	$ 769.4

(a) Our investment in TiBiT was sold during the fourth quarter of 2022.

(b) Includes gains of $15.7 million and $12.9 million, respectively, related to investments that were sold during the year.

Debt Securities

At December 31, 2022 and 2021, all of our SMAs were composed of debt securities, which are summarized in the following tables:

	December 31, 2022		
	Amortized cost basis	Accumulated unrealized losses	Fair value
		in millions	
Commercial paper	$ 881.1	$ 2.1	$ 883.2
Government bonds	697.0	(1.4)	695.6
Certificates of deposit	520.5	(0.6)	519.9
Corporate debt securities	405.3	(4.8)	400.5
Other debt securities	355.0	0.4	355.4
Total debt securities	$ 2,858.9	$ (4.3)	$ 2,854.6

	December 31, 2021		
	Amortized cost basis	Accumulated unrealized losses	Fair value
		in millions	
Commercial paper	$ 897.4	$ —	$ 897.4
Corporate debt securities	705.5	(1.6)	703.9
Government bonds	655.9	(3.3)	652.6
Certificates of deposit	355.5	(0.1)	355.4
Other debt securities	192.0	—	192.0
Total debt securities	$ 2,806.3	$ (5.0)	$ 2,801.3

During 2022 and 2021, we received proceeds from the sale of debt securities of $9.1 billion and $6.1 billion, respectively, the majority of which were reinvested in new debt securities held under SMAs. The sale of debt securities during 2022 and 2021 resulted in realized net losses of $6.9 million and $2.0 million, respectively.

The fair values of our debt securities as of December 31, 2022 by contractual maturity are shown below (in millions):

Due in one year or less	$ 2,621.6
Due in one to five years	231.6
Due in five to ten years	1.4
Total (a)	$ 2,854.6

(a) The weighted average life of our total debt securities was 0.4 years as of December 31, 2022.

Our investment portfolio is subject to various macroeconomic pressures and has experienced significant volatility, which affects both our non-public and publicly-traded investments. Changes in the fair values of these investments, including changes with respect to interest rates within our local jurisdictions, are likely to continue and could be significant.

(9) Derivative Instruments

In general, we enter into derivative instruments to protect against (i) increases in the interest rates on our variable-rate debt, (ii) foreign currency movements, particularly with respect to borrowings that are denominated in a currency other than the functional currency of the borrowing entity, and (iii) decreases in the market prices of certain publicly traded securities that we own. In this regard, through our subsidiaries, we have entered into various derivative instruments to manage interest rate exposure and foreign currency exposure, primarily with respect to the U.S. dollar (**$**), the euro (**€**), the British pound sterling (**£**), and the Swiss franc (**CHF**). Generally, we do not apply hedge accounting to our derivative instruments. Accordingly, changes in the fair values of most of our derivative instruments are recorded in net finance income in our consolidated statements of profit or loss.

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

	December 31, 2022			December 31, 2021		
	Current	Non-current	Total	Current	Non-current	Total
	in millions					
Assets (a):						
Cross-currency and interest rate derivative contracts (b)	$ 381.4	$ 1,087.6	$ 1,469.0	$ 214.9	$ 164.3	$ 379.2
Equity-related derivative instruments (c)	—	92.4	92.4	—	113.8	113.8
Foreign currency forward and option contracts	1.0	—	1.0	28.4	—	28.4
Other	0.3	—	0.3	1.0	—	1.0
Total	$ 382.7	$ 1,180.0	$ 1,562.7	$ 244.3	$ 278.1	$ 522.4
Liabilities (a):						
Cross-currency and interest rate derivative contracts (b)	$ 286.5	$ 449.0	$ 735.5	$ 208.8	$ 670.2	$ 879.0
Foreign currency forward and option contracts	10.3	1.3	11.6	13.0	—	13.0
Total	$ 296.8	$ 450.3	$ 747.1	$ 221.8	$ 670.2	$ 892.0

(a) Our non-current derivative assets and non-current derivative liabilities are included in other assets, net, and other non-current liabilities, respectively, in our consolidated statements of financial position.

(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 within each of our subsidiary borrowing groups (as defined and described in note 15). The changes in the credit risk valuation adjustments associated with our cross-currency and interest rate derivative contracts resulted in net losses of $16.6 million and $10.7 million during 2022 and 2021, respectively. These amounts are included in net finance income in our consolidated statements of profit or loss. For further information regarding our fair value measurements, see note 10.

(c) Our equity-related derivative instruments include warrants on our investment in Plume.

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

	Year ended December 31,	
	2022	2021
	in millions	
Cross-currency and interest rate derivative contracts	$ 1,185.5	$ 578.9
Foreign currency forward and option contracts	28.3	(31.8)
Equity-related derivative instruments:		
ITV Collar	—	(11.8)
Other	(21.4)	85.6
Total equity-related derivative instruments	(21.4)	73.8
Other	(0.7)	2.0
Total	$ 1,191.7	$ 622.9

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. The following table sets forth the classification of the net cash inflows of our derivative instruments:

	Year ended December 31,	
	2022	2021
	in millions	
Operating activities	$ 75.3	$ (22.5)
Investing activities	40.9	(107.1)
Financing activities	(50.0)	143.6
Total	$ 66.2	$ 14.0

Counterparty Credit Risk

We are exposed to the risk that the counterparties to the derivative instruments of our subsidiary borrowing groups 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, however notwithstanding, given the size of our derivative portfolio, the default of certain counterparties could have a significant impact on our consolidated statements of profit or loss. Collateral is generally not posted by either party under our derivative instruments. At December 31, 2022, our exposure to counterparty credit risk included derivative assets with an aggregate fair value of $922.5 million.

Each of our subsidiary borrowing groups 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 are limited to the derivative instruments, governed by the relevant master agreement within each individual borrowing group and are independent of similar arrangements of our other subsidiary borrowing groups.

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

Cross-currency Derivative Contracts

We generally match the denomination of our subsidiaries' borrowings with the functional currency of the supporting operations or, when it is more cost effective, we 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, 2022, substantially all of our debt was either directly or synthetically matched to the applicable functional currencies of the underlying operations. The following table sets forth the total notional amounts and the related weighted average remaining contractual lives of our cross-currency swap contracts at December 31, 2022:

	Notional amount due from counterparty		Notional amount due to counterparty			Weighted average remaining life
	in millions					in years
UPC Holding	$	250.0	€	220.6		2.8
	$	4,475.0	CHF	4,098.2	(a)	5.5
	€	2,650.0	CHF	2,970.1		3.1
	CHF	740.0	€	701.1		—
Telenet	$	3,940.0	€	3,489.6	(a)	4.1
	€	45.2	$	50.0	(b)	2.1

(a) Includes certain derivative instruments that are "forward-starting," such that the initial exchange occurs at a date subsequent to December 31, 2022. These instruments are typically entered into in order to extend existing hedges without the need to amend existing contracts.

(b) 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 coupon-related payments and receipts.

Interest Rate Swap Contracts

The following table sets forth the total U.S. dollar equivalents of the notional amounts and the related weighted average remaining contractual lives of our interest rate swap contracts at December 31, 2022:

	Pays fixed rate		Receives fixed rate	
	Notional amount	Weighted average remaining life	Notional amount	Weighted average remaining life
	in millions	in years	in millions	in years
UPC Holding	$ 5,945.2 (a)	2.3	$ 3,419.2	3.7
Telenet	$ 2,954.7 (a)	2.3	$ 1,394.5	0.8

(a) Includes forward-starting derivative instruments.

Interest Rate Swap Options

From time to time, we enter into interest rate swap options (**swaptions**) which give us the right, but not the obligation, to enter into certain interest rate swap contracts at set dates in the future. Such contracts typically have a life of no more than three years. At December 31, 2022, the option expiration period on each of our swaptions had expired.

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. The following table sets forth the total U.S. dollar equivalents of the notional amounts and related weighted average remaining contractual lives of our basis swap contracts at December 31, 2022:

	Notional amount due from counterparty	Weighted average remaining life
	in millions	in years
UPC Holding	$ 3,417.0 (a)	0.2
Telenet	$ 2,295.0	—

(a) Includes forward-starting derivative instruments.

Interest Rate Caps, Floors and Collars

From time to time, we enter into interest rate cap, floor and collar agreements. Purchased interest rate caps and collars lock in a maximum interest rate if variable rates rise, but also allow our company to benefit, to a limited extent in the case of collars, from declines in market rates. Purchased interest rate floors protect us from interest rates falling below a certain level, generally to match a floating rate floor on a debt instrument. At December 31, 2022, we had no interest rate collar agreements, and the total U.S. dollar equivalents of the notional amounts of our purchased interest rate caps and floors were $1.2 billion and $7.4 billion, respectively.

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, on our borrowing costs is as follows:

	Decrease to borrowing costs at December 31, 2022 (a)
UPC Holding	(2.79)%
Telenet	(2.38)%
VM Ireland	(2.28)%
Total decrease to borrowing costs	(2.58)%

____

(a) Represents the effect of derivative instruments in effect at December 31, 2022 and does not include forward-starting derivative instruments.

Foreign Currency Forwards and Options

Certain of our subsidiaries enter into foreign currency forward and option contracts with respect to non-functional currency exposure, including hedges of the proceeds from the sale of UPC Poland. As of December 31, 2022, the total U.S. dollar equivalent of the notional amounts of our foreign currency forward and option contracts was $873.5 million.

(10) Fair Value Measurements

We use the fair value method to account for (i) certain of our investments and (ii) our derivative instruments. The reported fair values of these investments and derivative instruments as of December 31, 2022 are unlikely to represent the value that will be paid or received upon the ultimate settlement or disposition of these assets and liabilities.

We use 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 in to or out of Levels 1, 2 or 3 at the beginning of the quarter during which the transfer occurred. During the fourth quarter of 2022, our investment in CANAL+ Polska transferred from Level 2 to Level 3 due to a lack of readily available observable inputs.

All of our Level 2 inputs (interest rate futures, swap rates and certain of the inputs for our weighted average cost of capital calculations) and certain of our Level 3 inputs (forecasted volatilities and credit spreads) are obtained from pricing services. These inputs, or interpolations or extrapolations thereof, are used in our internal models to calculate, among other items, yield curves, forward interest and currency rates and weighted average cost of capital 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.

For our investments in publicly-traded companies, the recurring fair value measurements are based on the quoted closing price of the respective shares at each reporting date. Accordingly, the valuations of these investments fall under Level 1 of the fair value hierarchy. Our other investments that we account for at fair value are privately-held companies, and therefore, quoted market prices are unavailable. For such investments, we generally apply a measurement alternative to record these investments at cost less impairment, adjusted for observable price changes in orderly transactions. For privately-held investments that don't qualify for the measurement alternative, we apply a combination of an income approach (discounted cash flow model based on forecasts) and a market approach (transactions with new third party investors or market multiples of similar businesses). With the exception of certain inputs for our weighted average cost of capital calculations that are derived from pricing services, the

inputs used to value these investments are based on unobservable inputs derived from our assumptions. Therefore, the valuation of our privately-held investments falls under Level 3 of the fair value hierarchy. Any reasonably foreseeable changes in assumed levels of unobservable inputs for the valuations of our Level 3 investments would not be expected to have a material impact on our financial position or results of operations.

The recurring fair value measurements of our equity-related derivative instruments are based on standard option pricing models, which require the input of observable and unobservable variables such as exchange-traded equity prices, risk-free interest rates, dividend forecasts and forecasted volatilities of the underlying equity securities. The valuations of our equity-related derivative instruments are based on a combination of Level 1 inputs (exchange-traded equity prices), Level 2 inputs (interest rate futures and swap rates) and Level 3 inputs (forecasted volatilities). As changes in volatilities could have a significant impact on the overall valuations over the terms of the derivative instruments, we have determined that these valuations fall under Level 3 of the fair value hierarchy. At December 31, 2022, our equity-related derivatives were not significantly impacted by forecasted volatilities.

In order to manage our interest rate and foreign currency exchange risk, we have entered into various derivative instruments, as further described in note 9. 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 currency rates, 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 classify deal-contingent hedges under Level 3 of the fair value hierarchy, as we adjust the valuations to reflect an internal judgement of the probability of the completion of the deal, which is unobservable. 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. The inputs used for our credit risk valuations, including 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 these parameters 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 9.

Fair value measurements are also used in connection with nonrecurring valuations performed in connection with acquisition accounting, impairment assessments and the accounting for our initial investment in the VMO2 JV. These nonrecurring valuations include the valuation of reporting units, customer relationships and other intangible assets, property and equipment, the implied value of goodwill and the valuation of our initial investment in the VMO2 JV. The valuation of reporting units and our initial investment in the VMO2 JV are based at least in part on discounted cash flow analyses. With the exception of certain inputs for our weighted average cost of capital and discount rate calculations that are derived from pricing services, the inputs used in our discounted cash flow analyses, such as forecasts of future cash flows, including inputs with respect to revenue growth and Adjusted EBITDA margin (as defined in note 19), and terminal growth rates, are based on our assumptions. The valuation of customer relationships is primarily based on an excess earnings methodology, which is a form of a discounted cash flow analysis. The excess earnings methodology requires us to estimate the specific cash flows expected from the customer relationship, considering such factors as estimated customer life, the revenue expected to be generated over the life of the customer relationship, contributory asset charges and other factors. Tangible assets are typically valued using a replacement or reproduction cost approach, considering factors such as current prices of the same or similar equipment, the age of the equipment and economic obsolescence. The implied value of goodwill is determined by allocating the fair value of a reporting unit to all of the assets and liabilities of that unit as if the reporting unit had been acquired in a business combination, with the residual amount allocated to goodwill. Most of our nonrecurring valuations use significant unobservable inputs and therefore fall under Level 3 of the fair value hierarchy. During 2022, we did not perform any significant nonrecurring fair value measurements. During 2021, we performed a nonrecurring valuation for the purpose of determining the fair value of our initial investment in the VMO2 JV, and the weighted average cost of capital used to value our initial investment was 6.9%. For information regarding our investment in the VMO2 JV, see note 8. For information regarding our acquisitions, see note 5.

The fair values of financial assets and liabilities, together with the carrying amounts shown in our consolidated statements of financial position are as follows:

	Category under IFRS 9 (a)	December 31, 2022		December 31, 2021	
		Carrying amount	Fair value	Carrying amount	Fair value
		in millions			
Assets carried at fair value:					
Derivative financial instruments	III	$ 1,562.7	$ 1,562.7	$ 522.4	$ 522.4
Investments	III	4,750.2	4,750.2	4,997.3	4,997.3
Total		$ 6,312.9	$ 6,312.9	$ 5,519.7	$ 5,519.7
Assets carried at cost or amortized cost:					
Investments	I	$ 14,429.4	(b)	$ 16,926.1	(b)
Restricted cash	I	6.2	$ 6.2	6.7	$ 6.7
Trade receivables, net	I	830.6	$ 830.6	907.3	$ 907.3
Cash and cash equivalents	I	1,726.2	$ 1,726.2	910.6	$ 910.6
Total		$ 16,992.4		$ 18,750.7	
Liabilities carried at fair value:					
Derivative financial instruments	III	$ 747.1	$ 747.1	$ 892.0	$ 892.0
Liabilities carried at cost or amortized cost:					
Debt obligations	I	$ 13,491.7	$ 12,610.3	$ 14,508.9	$ 14,461.7
Accounts payable	I	610.1	610.1	614.1	614.1
Lease obligations	I	2,226.2	2,226.2	1,852.8	1,852.8
Total		$ 16,328.0	$ 15,446.6	$ 16,975.8	$ 16,928.6

(a) Category I refers to financial assets and liabilities measured at amortized cost, category II refers to financial assets and liabilities measured at fair value through other comprehensive income or loss and category III refers to financial assets and liabilities measured at fair value through profit or loss.

(b) We have not estimated the fair value of our equity method investments.

A reconciliation of the beginning and ending balances of our assets and liabilities measured at fair value on a recurring basis using significant unobservable, or Level 3, inputs is as follows:

	Investments	Cross-currency and interest rate derivative contracts	Equity-related derivative instruments	Total
	in millions			
Balance of net assets (liabilities) at January 1, 2022	$ 1,382.3	$ (13.3)	$ 113.8	$ 1,482.8
Gains (losses) included in profit from continuing operations (a):				
Realized and unrealized gains due to changes in fair values of certain investments, net	88.4	—	—	88.4
Realized and unrealized losses on derivative instruments, net	—	—	(21.4)	(21.4)
Additions	101.2	—	—	101.2
Dispositions	(72.7)	—	—	(72.7)
Transfers in to Level 3	57.5	—	—	57.5
Transfers out of Level 3	(31.1)	13.3	—	(17.8)
Foreign currency translation adjustments and other, net	(29.4)	—	—	(29.4)
Balance of net assets at December 31, 2022 (b)	$ 1,496.2	$ —	$ 92.4	$ 1,588.6

(a) Amounts primarily relate to assets and liabilities that we continue to carry in our consolidated statement of financial position as of December 31, 2022.

(b) As of December 31, 2022, $286.6 million of our Level 3 investments were accounted for under the measurement alternative at cost less impairment, adjusted for observable price changes.

	Investments	Cross-currency and interest rate derivative contracts	Equity-related derivative instruments	Total
	in millions			
Balance of net assets at January 1, 2021	$ 433.4	$ —	$ 280.9	$ 714.3
Gains included in profit from continuing operations (a):				—
Realized and unrealized gains due to changes in fair values of certain investments, net	848.8	—	—	848.8
Realized and unrealized gains on derivative instruments, net	—	165.9	73.7	239.6
Settlement of ITV Collar	—	—	(240.8)	(240.8)
Derivative instruments contributed to the VMO2 JV in connection with the U.K. JV Transaction	—	(179.3)	—	(179.3)
Additions	126.6	—	—	126.6
Foreign currency translation adjustments and other, net	(26.5)	0.1	—	(26.4)
Balance of net assets (liabilities) at December 31, 2021 (b)	$ 1,382.3	$ (13.3)	$ 113.8	$ 1,482.8

(a) Amounts primarily relate to assets and liabilities that we continue to carry in our consolidated statement of financial position as of December 31, 2021.

(b) As of December 31, 2021, $285.9 million of our Level 3 investments were accounted for under the measurement alternative at cost less impairment, adjusted for observable price changes.

(11) Income Taxes

We file our primary income tax return in the U.K. Our subsidiaries file income tax returns in the U.K., the U.S. and a number of other jurisdictions. Our income taxes and those of our subsidiaries are presented on a separate return basis for each tax-paying entity or group.

Components of income tax benefit (expense) consist of:

	Year ended December 31,	
	2022	2021
	in millions	
Current tax benefit (expense):		
Current year	$ (116.4)	$ (133.9)
Adjustments for previous years	4.2	4.1
	(112.2)	(129.8)
Deferred tax benefit (expense):		
Origination and reversal of temporary differences and tax losses	(50.5)	(244.5)
Derecognition of deferred tax assets	(40.7)	(36.2)
Changes in tax rates	3.1	587.7
	(88.1)	307.0
Income tax expense on continuing operations	$ (200.3)	$ 177.2
Current tax expense	$ (6.4)	$ (45.8)
Deferred tax expense	(2.9)	(2.3)
Income tax expense on discontinuing operations	$ (9.3)	$ (48.1)
Deferred tax expense, recorded directly in other comprehensive income	$ (2.2)	$ (10.7)

Income tax amounts recognized in other comprehensive income are set forth in note 25.

Income tax expense attributable to our profit from continuing operations before income taxes differs from the amounts computed by applying the U.K. corporation tax rate as a result of the following factors:

	Year ended December 31,	
	2022	2021
	in millions	
Profit before tax from continuing operations before income taxes	$ 2,674.2	$ 13,871.6
Computed "expected" tax expense (a)	$ (508.1)	$ (2,635.6)
Non-deductible or non-taxable foreign currency exchange results	266.1	218.0
Basis and other differences in the treatment of items associated with investments in subsidiaries and affiliates	251.2	85.1
International rate differences (b)	(128.0)	(93.5)
Non-deductible or non-taxable interest and other expenses	(67.5)	(51.5)
Derecognition of deductible temporary differences	(40.7)	(36.2)
Tax benefit associated with technology innovation	26.4	31.1
Enacted tax law and rate changes (c)	3.1	587.7
Non-taxable gain associated with the U.K. JV Transaction	—	2,059.9
Recognition of previously unrecognized tax benefits	—	20.5
Other, net	(2.8)	(8.3)
Total income tax benefit (expense) — continuing operations	$ (200.3)	$ 177.2

(a) The statutory or "expected" tax rate is the U.K. rate of 19.0%.

(b) Amounts reflect adjustments (either a benefit or expense) to the "expected" tax benefit (expense) for statutory rates in jurisdictions in which we operate outside of the U.K.

(c) On May 24, 2021, legislation was substantively enacted in the U.K. to increase the U.K. corporate income tax rate to 25.0% from April 1, 2023. The impact of this rate change on our deferred tax balances was recorded during the second quarter of 2021. Effective January 1, 2022, the corporate income tax rate in the Netherlands increased from 25.0% to 25.8%. This change did not have a material impact on our consolidated financial statements.

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

	Net balance at January 1	Recognized in statement of profit or loss	Acquisitions	Dispositions and held for sale	Exchange difference	Other	Net balance at December 31	Deferred tax assets	Deferred tax liabilities
					in millions				
2022									
Net operating loss and other carryforwards	$ 205.7	$ 56.2	$ (1.5)	$ —	$ (11.6)	$ (1.2)	$ 247.6	$ 247.6	$ —
Investments (including consolidated partnerships)	66.4	(1.1)	—	—	0.1	(77.1)	(11.7)	0.9	(12.6)
Debt	(17.1)	(111.2)	—	—	0.3	77.1	(50.9)	40.4	(91.3)
Property, equipment and intangibles	(600.5)	173.8	(2.2)	—	22.4	5.4	(401.1)	90.0	(491.1)
Derivative instruments	97.9	(246.9)	—	—	(5.3)	—	(154.3)	1.0	(155.3)
Other future deductible (taxable) amounts	116.5	41.1	(2.2)	—	(0.8)	(7.4)	147.2	258.2	(111.0)
Net deferred tax liability	$ (131.1)	$ (88.1)	$ (5.9)	$ —	$ 5.1	$ (3.2)	$ (223.2)	$ 638.1	$ (861.3)
2021									
Net operating loss and other carryforwards	$ 233.0	$ 63.0	$ —	$ (75.5)	$ (10.7)	$ (4.1)	$ 205.7	$ 205.7	$ —
Investments (including consolidated partnerships)	35.5	28.7	—	0.1	1.3	0.8	66.4	68.6	(2.2)
Debt	0.2	(3.3)	—	(19.0)	4.8	0.2	(17.1)	143.8	(160.9)
Property, equipment and intangibles	(650.0)	213.0	(0.5)	(241.4)	71.5	6.9	(600.5)	4.6	(605.1)
Derivative instruments	231.2	(136.7)	—	10.4	(7.0)	—	97.9	98.7	(0.8)
Other future deductible (taxable) amounts	(10.5)	142.3	(0.1)	(1.9)	2.3	(15.6)	116.5	174.5	(58.0)
Net deferred tax liability	$ (160.6)	$ 307.0	$ (0.6)	$ (327.3)	$ 62.2	$ (11.8)	$ (131.1)	$ 695.9	$ (827.0)

The tables above include activities from our discontinued operations.

Where there is a right and ability to offset deferred tax balances within the same jurisdiction, this position is presented net on the face of the consolidated statements of financial position.

Our unrecognized deferred tax assets and tax loss carryforwards at December 31, 2022 are as follows (in millions):

	Amount	Expiration Date
Unrestricted tax losses	$ 1,080.0	Indefinite
Deductible temporary differences	468.7	
Net unrecognized deferred tax asset	$ 1,548.7	

We have taxable outside basis differences on certain investments in foreign subsidiaries. No additional income taxes have been provided for any undistributed foreign earnings, or any additional taxable temporary differences inherent in these entities, as these amounts will continue to be reinvested in foreign operations for the foreseeable future. At December 31, 2022, we have not provided deferred tax liabilities on an estimated $1.4 billion of cumulative temporary differences on the outside bases of our foreign subsidiaries.

On August 16, 2022, the Inflation Reduction Act was signed into law in the U.S. Although this legislation does not increase the U.S. corporate income tax rate, it includes, among other provisions, a new corporate alternative minimum tax (CAMT) on "adjusted financial statement income" that is effective for tax years beginning after December 31, 2022. We do not

currently anticipate that the CAMT will have a material impact on our consolidated financial statements, although we will continue to monitor additional guidance as it is issued to assess the impact to our tax position.

Through our subsidiaries, we maintain a presence in many countries. Many of these countries maintain highly complex tax regimes that differ significantly from the system of income taxation used in the U.K. and the U.S. We have accounted for the effect of these taxes based on what we believe is reasonably expected to apply to us and our subsidiaries based on tax laws currently in effect and reasonable interpretations of these laws.

We and our subsidiaries file consolidated and standalone income tax returns in various jurisdictions. In the normal course of business, our income tax filings are subject to review by various taxing authorities. In connection with such reviews, disputes could arise with the taxing authorities 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 these taxing authorities. As of December 31, 2022 and 2021, we had provisions for uncertain tax positions of $435.2 million and $447.1 million, respectively. The ultimate resolution of tax contingencies will take place upon the earlier of (i) the settlement date with the applicable taxing authorities in either cash or agreement of income tax positions or (ii) the date when the tax authorities are statutorily prohibited from adjusting the company's tax computations.

(12) Trade Receivables and Unbilled Revenue

The details of our trade receivables and unbilled revenue, net, are set forth below:

	December 31,	
	2022	2021
	in millions	
Trade receivables, gross	$ 760.7	$ 849.6
Allowance for impairment of trade receivables	(43.1)	(42.0)
Trade receivables, net	717.6	807.6
Unbilled revenue	142.8	163.2
Trade receivables and unbilled revenue, net	860.4	970.8
Current trade receivables and unbilled revenue, net	(830.6)	(907.3)
Non-current trade receivables and unbilled revenue, net (a)	$ 29.8	$ 63.5

____

(a) Non-current trade receivables and unbilled revenue, net, are included in other assets, net, in our consolidated statements of financial position.

The allowance for doubtful accounts is based upon our assessment of probable loss related to uncollectible trade 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 receipt of payment or the likelihood of collection is considered to be remote.

The detailed aging of trade receivables and the related allowance for impairment as of December 31, 2022 and 2021 are set forth below:

	December 31, 2022		December 31, 2021	
	Trade receivables, gross	Allowance for impairment	Trade receivables, gross	Allowance for impairment
	in millions			
Current portion:				
Days past due:				
Current	$ 449.0	$ (1.6)	$ 569.0	$ (3.3)
1 - 30 days	167.5	(2.4)	108.2	(1.4)
31 - 90 days	42.4	(4.2)	29.2	(4.3)
Over 90 days	72.0	(34.9)	79.7	(33.0)
Total	730.9	(43.1)	786.1	(42.0)
Non-current portion	29.8	—	63.5	—
Total trade receivables	$ 760.7	$ (43.1)	$ 849.6	$ (42.0)

The following table shows the development of the current portion of the allowance for impairment of trade receivables:

	2022	2021
	in millions	
Allowance at January 1	$ 42.0	$ 48.1
Provisions for impairment of trade receivables	36.8	38.8
Write-off of receivable	(28.5)	(38.2)
Foreign currency translation and other	(7.2)	(7.0)
Reclassification to assets held for sale	—	0.3
Allowance at December 31	$ 43.1	$ 42.0

When a trade receivable is determined to be uncollectible, it is written off against the allowance account. The provision for impairment of trade receivables is included in facilities and other operational costs in our consolidated statements of profit or loss.

(13) Equity

Capitalization

At December 31, 2022, our authorized share capital consisted of an aggregate nominal amount of $20.0 million, consisting of any of the following: (i) ordinary shares (Class A, B or C), each with a nominal value of $0.01 per share, (ii) preference shares, with a nominal value to be determined by the board of directors, the issuance of one or more classes or series of which may be authorized by the board of directors, and (iii) any other shares of one or more classes as may be determined by the board of directors or by the shareholders of Liberty Global.

Under Liberty Global's Articles of Association, effective July 1, 2015, holders of Liberty Global Class A ordinary shares are entitled to one vote for each such share held, and holders of Liberty Global Class B ordinary shares are entitled to 10 votes for each such share held, on all matters submitted to a vote of Liberty Global shareholders at any general meeting (annual or special). Holders of Liberty Global Class C ordinary shares are not entitled to any voting powers except as required by law.

At the option of the holder, each Liberty Global Class B ordinary share is convertible into one Liberty Global Class A ordinary share. One Liberty Global Class A ordinary share is reserved for issuance for each Liberty Global Class B ordinary share that is issued (12,994,000 shares issued as of December 31, 2022). Additionally, at December 31, 2022, we have reserved the following ordinary shares for the issuance of outstanding share-based incentive awards:

	Class A	Class C
Options	608,258	2,465,294
SARs	21,183,640	49,778,158
RSUs	1,984,663	3,968,778
PSUs and PSARs	3,281,811	6,417,033

Subject to any preferential rights of any outstanding class of our preference shares, the holders of our ordinary shares are entitled to dividends as may be declared from time to time by our board of directors from funds available therefore. Except with respect to share distributions, whenever a dividend is paid in cash to the holder of one class of our ordinary shares, we shall also pay to the holders of the other classes of our ordinary shares an equal per share dividend. There are currently no contractual restrictions on our ability to pay dividends in cash or shares.

In the event of our liquidation, dissolution or winding up, after payment or provision for payment of our debts and liabilities and subject to the prior payment in full of any preferential amounts to which our preference shareholders, if any, may be entitled, the holders of our ordinary shares will be entitled to receive their proportionate interests, expressed in liquidation units, in any assets available for distribution to our ordinary shares.

Share Repurchase Programs

As a U.K. incorporated company, we may only elect to repurchase shares or pay dividends to the extent of our "**Distributable Reserves**." Distributable Reserves, may be created through the earnings of the U.K. parent company and, among other methods, through a reduction in share premium approved by the English Companies Court. Based on the amounts set forth in our parent company statement of changes in equity, our Distributable Reserves were $15.8 billion as of December 31, 2022. For additional information, see note 6 to our parent company financial statements.

Our board of directors has approved various share repurchase programs for our Liberty Global ordinary shares. Under our repurchase programs, we may acquire from time to time our Class A ordinary shares, Class C ordinary shares or any combination of Class A and Class C ordinary shares. Our repurchase programs may be effected through open market transactions and/or privately negotiated transactions, which may include derivative transactions. The timing of the repurchase of shares pursuant to these programs will depend on a variety of factors, including market conditions and applicable law, and these programs may be implemented in conjunction with brokers for the company and other financial institutions with whom the company has relationships within certain preset parameters and purchases may continue during closed periods in accordance with applicable restrictions. Our share repurchase programs may be suspended or discontinued at any time. In July 2021, our

board of directors approved a share repurchase program pursuant to which we are authorized to repurchase 10% of our shares during each of 2022 and 2023, based on the total number of our outstanding shares as of the beginning of each respective year. As determined by our total number of outstanding shares as of December 31, 2022, we are authorized to repurchase approximately 45.9 million of our Class A and/or Class C ordinary shares during 2023. Based on the respective closing share prices as of December 30, 2022, this would equate to total share repurchases during 2023 of approximately $0.9 billion. However, the actual U.S. dollar amount of our share repurchases during 2023 will be determined by the actual transaction date share prices during the year and could differ significantly from this amount.

The following table provides details of our share repurchases during 2022 and 2021:

	Class A ordinary shares		Class C ordinary shares		
	Shares repurchased	Average price paid per share (a)	Shares repurchased	Average price paid per share (a)	Total cost (a)
					in millions
2022	3,856,700	$ 21.55	69,381,968	$ 23.34	$ 1,702.6
2021	8,445,800	$ 27.31	49,604,048	$ 27.23	$ 1,581.1

(a) Includes direct acquisition costs, where applicable.

Subsidiary Distributions

From time to time, Telenet and certain other of our subsidiaries make cash distributions to their respective shareholders. Our share of these distributions is eliminated in consolidation and the noncontrolling interest owners' share of these distributions is reflected as a charge against noncontrolling interests in our consolidated statements of changes in equity. In this regard, Telenet paid aggregate dividends to its shareholders during 2022 and 2021 of €149.0 million and €306.2 million, respectively. Our share of these dividends was €91.2 million ($96.2 million at the applicable rate) and €182.4 million ($214.0 million at the applicable rate), respectively.

Restricted Net Assets

The ability of certain of our subsidiaries to distribute or loan all or a portion of their net assets to our company is limited by the terms of applicable debt facilities. At December 31, 2022, a significant portion of our net assets represented net assets of our subsidiaries that were subject to such limitations.

(14) Share-based Compensation

Our share-based compensation expense primarily relates to the share-based incentive awards issued by Liberty Global to its employees and employees of its subsidiaries. A summary of our aggregate share-based compensation expense that is included in our costs of services and G&A expenses is set forth below:

	Year ended December 31,	
	2022	2021
	in millions	
Liberty Global:		
Non-performance based incentive awards (a)	$ 144.0	$ 193.8
Performance-based incentive awards (b)	7.1	59.6
Other (c)	30.8	33.6
Total Liberty Global	181.9	287.0
Telenet share-based incentive awards (d)	10.9	35.1
Other	9.8	11.2
Total	$ 202.6	$ 333.3
Included in:		
Costs of services	$ 5.2	$ 14.8
G&A expenses	197.4	318.5
Total	$ 202.6	$ 333.3

(a) In April 2021, the compensation committee of our board of directors approved the extension dates of outstanding SARs and director options granted in 2014 and 2015 from a seven-year term to a ten-year term. Accordingly, the Black-Scholes fair values of the respective outstanding awards increased, resulting in the recognition of an aggregate incremental share-based compensation expense of $22.7 million during 2021.

(b) Includes share-based compensation expense related to (i) our 2019 Challenge Performance Awards and (ii) in the 2021 period, PSUs and our 2019 CEO Performance Award, each as defined and described below.

(c) Represents annual incentive compensation and defined contribution plan liabilities that have been or are expected to be settled with Liberty Global ordinary shares. In the case of annual incentive compensation, shares have been or will be issued to senior management and key employees pursuant to a shareholding incentive program. The shareholding incentive program allows these employees to elect to receive up to 100% of their annual incentive compensation in ordinary shares of Liberty Global in lieu of cash. In addition, amounts include compensation expense related to the 2022 and 2021 Ventures Incentive Plans, each as defined and described below.

(d) Represents the share-based compensation expense associated with Telenet's share-based incentive awards, which, at December 31, 2022, included performance- and non-performance-based stock option awards with respect to 3,519,920 Telenet shares. These stock option awards had a weighted average exercise price of €31.43 ($33.66).

As of December 31, 2022, $146.2 million of total unrecognized compensation cost related to our Liberty Global share-based incentive awards is expected to be recognized by our company over a weighted-average period of approximately 1.6 years.

The following table summarizes certain information related to the share-based incentive awards granted and exercised with respect to Liberty Global ordinary shares (includes amounts related to awards held by employees of our discontinued operations, unless otherwise noted):

	Year ended December 31,	
	2022	**2021**
Assumptions used to estimate fair value of options and SARs granted:		
Risk-free interest rate	2.27 - 3.09%	0.48 - 1.13%
Expected life	3.7 - 6.2 years	3.7 - 6.2 years
Expected volatility	33.5 - 38.1%	30.8 - 33.2%
Expected dividend yield	none	none
Weighted average grant-date fair value per share of awards granted:		
Options	$ 9.90	$ 8.75
SARs	$ 7.50	$ 6.79
RSUs	$ 25.51	$ 25.69
Total intrinsic value of awards exercised (in millions):		
Options	$ 0.5	$ 1.4
SARs	$ 7.0	$ 28.9
PSARs	$ 0.2	$ 0.1
Cash received from exercise of options (in millions)	$ 13.0	$ 8.9
Income tax benefit related to share-based compensation of our continuing operations (in millions)	$ 1.3	$ 14.9

Share Incentive Plans — Liberty Global Ordinary Shares

2014 Incentive Plans

As of December 31, 2022, we are authorized to grant incentive awards under the "**Liberty Global 2014 Incentive Plan**" and the "**Liberty Global 2014 Nonemployee Director Incentive Plan**" (collectively, the **2014 Incentive Plans**). Generally, we may grant non-qualified share options, SARs, PSARs, restricted shares, RSUs, cash awards, performance awards or any combination of the foregoing under either of these incentive plans (collectively, "**awards**"). Ordinary shares issuable pursuant to awards made under these incentive plans will be made available from either authorized but unissued shares or shares that have been issued but reacquired by our company. Awards may be granted at or above fair value in any class of ordinary shares. The maximum number of Liberty Global shares with respect to which awards may be issued under the Liberty Global 2014 Incentive Plan and the Liberty Global 2014 Nonemployee Director Incentive Plan is 155 million (of which no more than 50.25 million shares may consist of Class B ordinary shares) and 10.5 million, respectively, in each case, subject to anti-dilution and other adjustment provisions in the respective plan. As of December 31, 2022, the Liberty Global 2014 Incentive Plan and the Liberty Global 2014 Nonemployee Director Incentive Plan had 49,782,418 and 7,336,388 ordinary shares available for grant, respectively.

Awards (other than performance-based awards) under the Liberty Global 2014 Incentive Plan generally (i) vest (a) prior to 2020, 12.5% on the six-month anniversary of the grant date and then at a rate of 6.25% each quarter thereafter and (b) commencing in 2020, annually over a three-year period, and (ii) expire (1) prior to 2019, seven years after the grant date and (2) commencing in 2019, 10 years after the grant date. Awards (other than RSUs) issued under the Liberty Global 2014 Nonemployee Director Incentive Plan generally vest in three equal annual installments, provided the director continues to serve as director immediately prior to the vesting date, and expire seven years after the grant date. Commencing with awards made in 2019, the term was increased to 10 years. RSUs vest on the date of the first annual general meeting of shareholders following the grant date. These awards may be granted at or above fair value in any class of ordinary shares.

2022 Ventures Incentive Plan

In April 2022, the compensation committee of our board of directors approved the "**2022 Ventures Incentive Plan**". The 2022 Ventures Incentive Plan was provided to executive officers and other key employees and is based on the performance of the Liberty Global Ventures Portfolio (the "**Portfolio**"), which is measured by assessing the fair value of the Portfolio over a three-year period that began on December 31, 2021 and ends on December 31, 2024. An initial fair value assessment was performed for the Portfolio as of December 31, 2021 by an independent third-party valuation specialist. Payout will be denominated in cash and will be assessed at the end of the three-year period using eligible participants' initial contribution between 10% and 50% of their 2022 annual target equity value (which contributed amount is in lieu of their normal annual equity grant). The compensation committee has the discretion to settle the final payout amount in (i) cash or (ii) Liberty Global Class A and Class C ordinary shares based on the change in the Portfolio's value. Subject to forfeitures, 100% of each participant's payout will vest on or around March 15, 2025. In order to receive the payout, participants are required to remain employed through the final vesting date. The 2022 Ventures Incentive Plan awards are liability classified due to the fact that the final payout under this plan will be denominated in cash and may be settled in a variable number of shares. At December 31, 2022, the estimated fair value of the final payout under the 2022 Ventures Incentive Plan was $9.7 million.

2021 Ventures Incentive Plan

In April 2021, the compensation committee of our board of directors approved the "**2021 Ventures Incentive Plan**". The 2021 Ventures Incentive Plan was provided to executive officers and other key employees and is based on the performance of the Portfolio, which is measured by assessing the fair value of the Portfolio over a three-year period that began on December 31, 2020 and ends on December 31, 2023. An initial fair value assessment was performed for the Portfolio as of December 31, 2020 by an independent third-party valuation specialist. Payout will be denominated in cash and will be assessed at the end of the three-year period using eligible participants' initial contribution between 10% and 100% of their 2021 annual target equity value (which contributed amount is in lieu of their normal annual equity grant). The compensation committee has the discretion to settle the final payout amount in (i) cash or (ii) Liberty Global Class A and Class C ordinary shares based on the change in the Portfolio's value. Subject to forfeitures, 100% of each participant's payout will vest on March 31, 2024. In order to receive the payout, participants are required to remain employed through the final vesting date. The 2021 Ventures Incentive Plan awards are liability classified due to the fact that the final payout under this plan will be denominated in cash and may be settled in a variable number of shares. At December 31, 2022, the estimated fair value of the final payout under the 2021 Ventures Incentive Plan was $16.1 million.

Performance Awards

The following is a summary of the material terms and conditions with respect to our performance-based awards for certain executive officers and key employees.

2019 CEO Performance Award

In April 2019, the compensation committee of our board of directors approved the grant of RSAs and PSUs to our Chief Executive Officer (**CEO**) (the **2019 CEO Performance Award**), comprising 670,000 RSAs and 1,330,000 PSUs, each with respect to Liberty Global Class B ordinary shares. The RSAs vested on December 31, 2019, 670,000 PSUs vested on May 15, 2020, and the remaining 660,000 PSUs vested on May 15, 2021. The performance criteria for the 2019 CEO Performance Award PSUs was based on the achievement of our CEO's performance conditions, as established by the compensation committee.

2019 Challenge Performance Awards

In March 2019, the compensation committee of our board of directors approved a challenge performance award for executive officers and certain employees (the **2019 Challenge Performance Awards**), which consists of a combination of PSARs and PSUs, in each case divided on a 1:2 ratio based on Liberty Global Class A ordinary shares and Liberty Global Class C ordinary shares. Each PSU represents the right to receive one Liberty Global Class A ordinary share or one Liberty Global Class C ordinary share, as applicable. The performance criteria for the 2019 Challenge Performance Awards is based on the participant's performance and achievement of individual goals during the three-year period ended December 31, 2021. Subject to forfeitures, the satisfaction of performance conditions and certain other terms, 100% of each participant's 2019 Challenge

Performance Awards were earned and vested on March 7, 2022. The PSARs have a term of ten years and base prices equal to the respective market closing prices of the applicable class on the grant date.

Liberty Global PSUs

In April 2019, the compensation committee of our board of directors approved the grant of PSUs to executive officers and key employees (the **2019 PSUs**). The performance plan for the 2019 PSUs covered the two-year period ended December 31, 2020 and included a performance target based on the achievement of a specified compound annual growth rate (**CAGR**) in a consolidated Adjusted EBITDA metric (as defined in note 19). The performance target was adjusted for events such as acquisitions, dispositions and changes in foreign currency exchange rates that affect comparability (**Adjusted EBITDA CAGR**). The 2019 PSUs required delivery of an Adjusted EBITDA CAGR of 1.38% and included over- and under-performance payout opportunities should the Adjusted EBITDA CAGR exceed or fail to meet the target, as applicable. Participants earned 65% of their targeted awards under the 2019 PSUs, which vested 50% on each of April 1, 2021 and October 1, 2021.

Share-based Award Activity — Liberty Global Ordinary Shares

The following tables summarize the share-based award activity during 2022 with respect to awards issued by Liberty Global. Our company settles SARs and PSARs on a net basis when exercised by the award holder, whereby the number of shares issued represents the excess value of the award based on the market price of the respective Liberty Global shares at the time of exercise relative to the award's exercise price. In addition, with respect to share-based awards held by Liberty Global employees, the number of shares to be issued upon vesting or exercise is reduced by the amount of the employee's required income tax withholding.

Options — Class A ordinary shares	Number of awards	Weighted average exercise price	Weighted average remaining contractual term	Aggregate intrinsic value
			in years	in millions
Outstanding at January 1, 2022	580,518	$ 30.38		
Granted	50,121	22.04		
Forfeited	(10,447)	24.48		
Exercised	(11,934)	19.28		
Outstanding at December 31, 2022	608,258	$ 30.02	3.7	$ —
Exercisable at December 31, 2022	510,074	$ 31.25	2.7	$ —

Options — Class C ordinary shares	Number of awards	Weighted average exercise price	Weighted average remaining contractual term	Aggregate intrinsic value
			in years	in millions
Outstanding at January 1, 2022	2,244,752	$ 25.76		
Granted	297,787	25.32		
Forfeited	(22,925)	24.13		
Exercised	(54,320)	20.46		
Outstanding at December 31, 2022	2,465,294	$ 25.84	5.2	$ 1.7
Exercisable at December 31, 2022	1,787,439	$ 26.75	4.0	$ 1.1

SARs — Class A ordinary shares	Number of awards	Weighted average base price	Weighted average remaining contractual term	Aggregate intrinsic value
			in years	in millions
Outstanding at January 1, 2022	21,077,203	$ 27.05		
Granted	1,481,151	25.79		
Forfeited	(1,025,686)	29.39		
Exercised	(300,588)	17.37		
Impact of the sale of UPC Poland	(48,440)	28.20		
Outstanding at December 31, 2022	21,183,640	$ 26.98	4.9	$ 10.2
Exercisable at December 31, 2022	14,135,730	$ 28.52	3.3	$ 6.3

SARs — Class C ordinary shares	Number of awards	Weighted average base price	Weighted average remaining contractual term	Aggregate intrinsic value
			in years	in millions
Outstanding at January 1, 2022	49,605,813	$ 26.18		
Granted	2,962,302	26.26		
Forfeited	(2,023,151)	28.65		
Exercised	(675,795)	17.24		
Impact of the sale of UPC Poland	(91,011)	27.60		
Outstanding at December 31, 2022	49,778,158	$ 26.20	5.1	$ 30.3
Exercisable at December 31, 2022	30,354,881	$ 27.45	3.1	$ 18.7

PSARs — Class A ordinary shares	Number of awards	Weighted average base price	Weighted average remaining contractual term	Aggregate intrinsic value
			in years	in millions
Outstanding at January 1, 2022	3,352,572	$ 25.97		
Forfeited	(56,710)	25.97		
Exercised	(591)	25.97		
Impact of the sale of UPC Poland	(13,460)	25.97		
Outstanding at December 31, 2022	3,281,811	$ 25.97	6.2	$ —
Exercisable at December 31, 2022	3,281,811	$ 25.97	6.2	$ —

PSARs — Class C ordinary shares	Number of awards	Weighted average base price	Weighted average remaining contractual term	Aggregate intrinsic value
			in years	in millions
Outstanding at January 1, 2022	6,705,149	$ 25.22		
Forfeited	(107,513)	25.22		
Exercised	(153,683)	25.22		
Impact of the sale of UPC Poland	(26,920)	25.22		
Outstanding at December 31, 2022	6,417,033	$ 25.22	6.2	$ —
Exercisable at December 31, 2022	6,417,033	$ 25.22	6.2	$ —

RSUs — Class A ordinary shares	Number of awards	Weighted average grant-date fair value per share	Weighted average remaining contractual term
			in years
Outstanding at January 1, 2022	2,625,839	$ 21.16	
Granted	1,018,770	25.21	
Forfeited	(155,581)	23.09	
Released from restrictions	(1,503,607)	21.38	
Impact of the sale of UPC Poland	(758)	22.04	
Outstanding at December 31, 2022	1,984,663	$ 22.92	1.3

RSUs — Class B ordinary shares	Number of awards	Weighted average grant-date fair value per share	Weighted average remaining contractual term
			in years
Outstanding at January 1, 2022	—	$ —	
Granted	71,051	24.46	
Released from restrictions	(63,161)	24.36	
Outstanding at December 31, 2022	7,890	$ 25.24	0.2

RSUs — Class C ordinary shares	Number of awards	Weighted average grant-date fair value per share	Weighted average remaining contractual term
			in years
Outstanding at January 1, 2022	5,250,912	$ 20.63	
Granted	2,037,538	25.69	
Forfeited	(310,642)	22.85	
Released from restrictions	(3,007,514)	21.02	
Impact of the sale of UPC Poland	(1,516)	23.19	
Outstanding at December 31, 2022	3,968,778	$ 22.75	1.3

PSUs — Class A ordinary shares	Number of awards	Weighted average grant-date fair value per share	Weighted average remaining contractual term
			in years
Outstanding at January 1, 2022	933,511	$ 25.97	
Forfeited	(2,929)	25.97	
Released from restrictions	(930,582)	25.97	
Outstanding at December 31, 2022	—	$ —	—

PSUs — Class C ordinary shares	Number of awards	Weighted average grant-date fair value per share	Weighted average remaining contractual term
			in years
Outstanding at January 1, 2022	1,867,022	$ 25.22	
Forfeited	(5,856)	25.22	
Released from restrictions	(1,861,166)	25.22	
Outstanding at December 31, 2022	—	$ —	—

Share-based Award Activity — Liberty Global Ordinary Shares held by former Liberty Global employees

The following tables summarize the share-based awards held by former employees of Liberty Global subsequent to certain split-off or disposal transactions. Any future exercises of SARs or PSARs, or vesting of RSUs will increase the number of our outstanding ordinary shares.

	Number of awards	Weighted average exercise or base price	Weighted average remaining contractual term	Aggregate intrinsic value
			in years	in millions
Options, SARs and PSARs:				
Class A				
Outstanding	1,621,675	$ 31.58	1.9	$ 0.2
Exercisable	1,546,159	$ 32.03	1.6	$ 0.1
Class C				
Outstanding	3,651,358	$ 29.96	2.1	$ 0.7
Exercisable	3,500,357	$ 30.31	1.9	$ 0.4

	Number of awards	Weighted average grant date fair value per share	Weighted average remaining contractual term
			in years
Outstanding RSUs:			
Class A	32,581	$ 23.27	0.9
Class C	66,370	$ 22.78	0.9

(15) Debt

The U.S. dollar equivalents of the components of our debt are as follows:

	December 31, 2022			Principal amount	
	Weighted average interest rate (a)	Unused borrowing capacity (b)		December 31,	
		Borrowing currency	U.S. $ equivalent	2022	2021
		in millions			
UPC Holding Bank Facility (c)	6.60 %	€ 713.4	$ 764.1	$ 3,587.7	$ 4,062.5
UPC SPE Notes	4.57 %	—	—	1,651.6	1,933.2
UPC Holding Senior Notes	4.78 %	—	—	814.2	1,211.6
Telenet Credit Facility (d)	5.90 %	€ 555.0	594.4	3,483.9	3,558.9
Telenet Senior Secured Notes	4.77 %	—	—	1,578.4	1,614.9
VM Ireland Credit Facility (e)	6.19 %	€ 100.0	107.1	963.9	1,024.9
Vendor financing (f)	2.63 %	—	—	704.7	843.2
Other (g)	4.21 %	—	—	585.8	149.6
Total debt before deferred financing costs, discounts, premiums and accrued interest (h)	5.50 %		$ 1,465.6	$ 13,370.2	$ 14,398.8

The following table provides a reconciliation of total debt before deferred financing costs, discounts, premiums and accrued interest to total debt and lease obligations:

	December 31,	
	2022	2021
	in millions	
Total debt before deferred financing costs, discounts, premiums and accrued interest	$ 13,370.2	$ 14,398.8
Deferred financing costs, discounts, premiums and accrued interest, net	121.5	110.1
Total carrying amount of debt	13,491.7	14,508.9
Lease obligations (note 16)	2,226.2	1,852.8
Total debt and lease obligations	15,717.9	16,361.7
Current portion of debt and lease obligations	(1,111.3)	(1,161.2)
Non-current debt and lease obligations	$ 14,606.6	$ 15,200.5

____

(a) Represents the weighted average interest rate in effect at December 31, 2022 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 and certain other obligations that we assumed in connection with certain acquisitions, the weighted average interest rate on our aggregate variable- and fixed-rate indebtedness was 3.21% at December 31, 2022. For information regarding our derivative instruments, see note 9.

(b) Unused borrowing capacity represents the maximum availability under the applicable facility at December 31, 2022 without regard to covenant compliance calculations or other conditions precedent to borrowing. The following table provides our borrowing availability and amounts available to loan or distribute under each of the respective subsidiary facilities, based on the most restrictive applicable leverage covenants and leverage-based restricted payment tests, (i) at

December 31, 2022 and (ii) upon completion of the relevant December 31, 2022 compliance reporting requirements. These amounts do not consider any actual or potential changes to our borrowing levels or any amounts loaned or distributed subsequent to December 31, 2022, or the impact of additional amounts that may be available to borrow, loan or distribute under certain defined baskets within each respective facility.

	Availability			
	December 31, 2022		Upon completion of the relevant December 31, 2022 compliance reporting requirements	
	Borrowing currency	U.S. $ equivalent	Borrowing currency	U.S. $ equivalent
	in millions			
Available to borrow:				
UPC Holding Bank Facility	€ 713.4	$ 764.1	€ 713.4	$ 764.1
Telenet Credit Facility	€ 555.0	$ 594.4	€ 555.0	$ 594.4
VM Ireland Credit Facility	€ 100.0	$ 107.1	€ 100.0	$ 107.1
Available to loan or distribute:				
UPC Holding Bank Facility	€ 303.9	$ 325.5	€ 351.5	$ 376.5
Telenet Credit Facility	€ 555.0	$ 594.4	€ 555.0	$ 594.4
VM Ireland Credit Facility	€ 89.1	$ 95.4	€ 60.0	$ 64.3

(c) Unused borrowing capacity under the UPC Holding Bank Facility relates to an equivalent €713.4 million ($764.1 million) under the UPC Revolving Facility, part of which has been made available as an ancillary facility. With the exception of €23.0 million ($24.6 million) of borrowings under the ancillary facility, the UPC Revolving Facility was undrawn at December 31, 2022.

(d) Unused borrowing capacity under the Telenet Credit Facility comprises (i) €510.0 million ($546.2 million) under the Telenet Revolving Facility I, (ii) €25.0 million ($26.8 million) under the Telenet Overdraft Facility and (iii) €20.0 million ($21.4 million) under the Telenet Revolving Facility, each of which were undrawn at December 31, 2022.

(e) Unused borrowing capacity under the VM Ireland Credit Facility relates to €100.0 million ($107.1 million) under the VM Ireland Revolving Facility, which was undrawn at December 31, 2022.

(f) Represents amounts owed to various creditors pursuant to interest-bearing vendor financing arrangements that are used to finance certain of our property, equipment and intangible asset additions and operating expenses. These arrangements extend our repayment terms beyond a vendor's original due dates (e.g., extension beyond a vendor's customary payment terms, which are generally 90 days or less) and as such are classified outside of accounts payable as debt in our consolidated statements of financial position. These obligations are generally due within one year and include VAT that was also financed under these arrangements. For purposes of our consolidated statements of cash flows, operating-related expenses financed by an intermediary are treated as constructive operating cash outflows and constructive financing cash inflows when the intermediary settles the liability with the vendor as there is no actual cash outflow until we pay the financing intermediary. During 2022 and 2021, the constructive cash outflow included in cash flows from operating activities and the corresponding constructive cash inflow included in cash flows from financing activities related to these operating expenses were $522.7 million and $1,781.6 million, respectively. Repayments of vendor financing obligations at the time we pay the financing intermediary are included in repayments and repurchases of debt and lease obligations in our consolidated statements of cash flows.

(g) The December 31, 2022 amount includes $428.1 million of liabilities related to Telenet's acquisition of mobile spectrum licenses. Telenet will make annual payments for the license fees over the terms of the respective licenses. For additional information regarding Telenet's acquisition of mobile spectrum licenses, see note 7.

(h) As of December 31, 2022 and 2021, our debt had an estimated fair value of $12.6 billion and $14.5 billion, respectively. 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). For additional information regarding fair value hierarchies, see note 10.

General Information

At December 31, 2022, most of our outstanding debt had been incurred by one of our three subsidiary "borrowing groups." References to these borrowing groups, which comprise UPC Holding, Telenet and VM Ireland, include their respective restricted parent and subsidiary entities.

Credit Facilities. Each of our borrowing groups has entered into one or more credit facility agreements with certain financial and other institutions. Certain of our credit facilities provide for adjustments to our borrowing rates based on the achievement, or otherwise, of certain sustainability-linked metrics. Each of these 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 facilities have 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 the members of the relevant borrowing group 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 (and indirectly to Liberty Global) through dividends, loans or other distributions;
- Our credit facilities require that certain members of the relevant borrowing group guarantee the payment of all sums payable under the relevant credit facility and such group members are required to grant first-ranking security over their shares and, in certain borrowing groups, over substantially all of their assets to secure the payment of all sums payable thereunder;
- In addition to certain mandatory prepayment events, our credit facilities provide that the instructing group of lenders under the relevant credit facility, under certain circumstances, may cancel the group's commitments thereunder and declare the loan(s) thereunder due and payable after the applicable notice period following the occurrence of a change of control (as specified in the relevant credit facility);
- 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 members of the relevant borrowing group to observe certain affirmative and negative undertakings and covenants, which are subject to certain materiality qualifications and other customary and agreed exceptions; and
- In addition to customary default provisions, our credit facilities generally include certain cross-default or cross-acceleration provisions with respect to other indebtedness of members of the relevant borrowing group, subject to agreed minimum thresholds and other customary and agreed exceptions.

Senior and Senior Secured Notes. Certain of our borrowing groups have issued senior and/or senior secured notes. In general, our senior and senior secured notes (i) are senior obligations of each respective issuer within the relevant borrowing group 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 within the relevant borrowing group, (ii) contain, in most instances, certain guarantees from other members of the relevant borrowing group (as specified in the applicable indenture) and (iii) with respect to our senior secured notes, are secured by certain pledges or liens over the shares of certain members of the relevant borrowing group and, in certain borrowing groups, over substantially all of their assets. In addition, the indentures governing our senior and senior secured notes contain certain covenants, the more notable of which are as follows:

- Our notes contain certain customary incurrence-based covenants. In addition, our notes provide that any failure to pay principal at its stated maturity (after giving effect to any applicable grace period) of, or any acceleration with respect to, other indebtedness of the issuer or certain subsidiaries over agreed minimum thresholds (as specified under the applicable indenture) is an event of default under the respective notes;

- Subject to certain customary and agreed exceptions, our notes contain certain restrictions that, among other things, restrict the ability of the members of the relevant borrowing group 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 its direct and/or indirect parent companies (and indirectly to Liberty Global) through dividends, loans or other distributions;

- If the relevant issuer or certain of its subsidiaries (as specified in the applicable indenture) sell certain assets, such issuer must, subject to certain 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%;

- Our senior secured notes contain certain early redemption provisions including 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 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; and

- Our notes are non-callable prior to their respective call date (as specified under the applicable indenture). 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 (as specified in the applicable indenture). On or after the applicable call date, we may redeem some or all of these notes at various redemption prices plus accrued interest and additional amounts (as specified in the applicable indenture), if any, to the applicable redemption date.

SPE Notes. From time to time, we create special purpose financing entities (**SPEs**), some of which are owned by the relevant borrowing group and some of which are owned by third parties (**Third-Party SPEs**). These SPEs are created for the primary purpose of facilitating the offering of senior secured notes, which we collectively refer to as "**SPE Notes**".

The SPEs use the proceeds from the issuance of SPE Notes to fund term loan facilities under the credit facilities made available to their respective borrowing group, each a "**Funded Facility**" and collectively the "**Funded Facilities**." Each SPE is dependent on payments from the relevant borrowing entity under the applicable Funded Facility in order to service its payment obligations under each respective SPE Note. Each of the Funded Facility term loans creates a variable interest in the respective Third-Party SPE for which the relevant borrowing entity is the primary beneficiary. Accordingly, such Third-Party SPEs are consolidated by the relevant parent entities, including Liberty Global. As a result, the amounts outstanding under the Funded Facilities of the SPEs owned by the relevant borrowing group and the Third-Party SPEs are eliminated in the consolidated financial statements of the respective borrowing group and Liberty Global. At December 31, 2022, we had outstanding SPE Notes issued by a Third-Party SPE consolidated by UPC Holding (the **UPCB SPE**).

Pursuant to the respective indentures for the SPE Notes (the **SPE Indentures**) and the respective accession agreements for the Funded Facilities, the call provisions, maturity dates and applicable interest rates for each Funded Facility are the same as those of the related SPE Notes. The SPEs, as lenders under the relevant Funded Facility for the relevant borrowing group, are treated the same as the other lenders under the respective credit facility, with benefits, rights and protections similar to those afforded to the other lenders. Through the covenants in the applicable SPE Indentures and the applicable security interests over the relevant SPE's rights under the applicable Funded Facility granted to secure the relevant SPE's obligations under the relevant SPE Notes, the holders of the SPE Notes are provided indirectly with the benefits, rights, protections and covenants granted to the SPEs as lenders under the applicable Funded Facility. The SPEs are prohibited from incurring any additional indebtedness, subject to certain exceptions under the SPE Indentures.

The SPE Notes are non-callable prior to their respective call date (as specified under the applicable SPE Indenture). If, however, at any time prior to the applicable call date, all or a portion of the loans under the related Funded Facility are voluntarily prepaid (a **SPE Early Redemption Event**), then the SPE will be required to redeem an aggregate principal amount

of its respective SPE Notes equal to the aggregate principal amount of the loans prepaid under the relevant Funded Facility. In general, the redemption price payable will equal 100% of the principal amount of the applicable SPE Notes to be redeemed and 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 (as specified in the applicable SPE Indenture).

Upon the occurrence of a SPE Early Redemption Event on or after the applicable call date, the SPE will redeem an aggregate principal amount of its respective SPE Notes equal to the principal amount prepaid under the related Funded Facility at a redemption price (expressed as a percentage of the principal amount) plus accrued and unpaid interest and additional amounts (as specified in the applicable SPE Indenture), if any, to the applicable redemption date.

Financing Transactions

Below we provide summary descriptions of certain financing transactions completed during 2022, 2021 and 2020. A portion of our financing transactions may include non-cash borrowings and repayments. During 2022, 2021 and 2020, non-cash borrowings and repayments aggregated nil, $2.9 billion and $3.5 billion, respectively, including amounts related to the U.K. JV Entities prior to completion of the U.K. JV Transaction.

UPC Holding - 2022 Financing Transactions

In April 2022, a portion of the net proceeds from the sale of UPC Poland was used to (i) purchase and extinguish €216.5 million ($231.9 million) of the €600.0 million ($642.6 million) outstanding principal amount under UPC Facility AQ, together with accrued and unpaid interest, from the related UPCB SPE and, simultaneously, an equal amount of UPCB Finance VII Euro Notes were purchased and cancelled, (ii) purchase and cancel €205.1 million ($219.7 million) of the €594.3 million ($636.5 million) outstanding principal amount of UPC Holding 3.875% Senior Notes, (iii) purchase and cancel $82.7 million of the $535.0 million outstanding principal amount of UPC Holding 5.50% Senior Notes, (iv) purchase and extinguish $208.0 million of the $1,925.0 million outstanding principal amount under UPC Facility AX, (v) purchase and extinguish €169.5 million ($181.5 million) of the €862.5 million ($923.8 million) outstanding principal amount under UPC Facility AY and (vi) settle associated derivatives. In connection with these transactions, UPC Holding recognized a net loss on debt extinguishment of $2.0 million related to (a) the write-off of $5.2 million of unamortized deferred financing costs and discounts, (b) a net gain associated with settlement discounts of $4.7 million and (c) the payment of $1.5 million of third-party costs.

In May 2022, an additional (i) €51.3 million ($54.9 million) of UPC Holding 3.875% Senior Notes were purchased and cancelled and (ii) €8.6 million ($9.2 million) under UPC Facility AQ, together with accrued and unpaid interest, was purchased and extinguished and, simultaneously, an equal amount of UPCB Finance VII Euro Notes were purchased and cancelled. In connection with these transactions, UPC Holding recognized a net gain on debt extinguishment of $4.8 million related to (a) a gain associated with settlement discounts of $5.1 million and (b) the write-off of $0.3 million of unamortized deferred financing costs and discounts.

UPC Holding - 2021 and 2020 Financing Transactions

During 2021 and 2020, UPC Holding completed a number of financing transactions that generally resulted in lower interest rates and extended maturities. In connection with these transactions, UPC Holding recognized losses on debt extinguishment of $90.6 million and $43.1 million during 2021 and 2020, respectively. These losses primarily include (i) the write-off of net unamortized deferred financing costs, discounts and premiums of $77.7 million and $0.3 million and (ii) the payment of redemption premiums of $12.9 million and $43.8 million, respectively.

Telenet - 2020 Financing Transactions

During 2020, Telenet completed a number of financing transactions that generally resulted in lower interest rates and extended maturities. In connection with these transactions, Telenet recognized a loss on debt extinguishment of $18.9 million related to the write-off of net unamortized deferred financing costs, discounts and premiums.

Maturities of Debt

Maturities of our debt as of December 31, 2022 are presented below for the named entity and its subsidiaries, unless otherwise noted, and represent U.S. dollar equivalents based on December 31, 2022 exchange rates:

	UPC Holding (a)	Telenet	VM Ireland	Other	Total
			in millions		
Year ending December 31:					
2023	$ 284.6	$ 403.5	$ —	$ 33.4	$ 721.5
2024	—	28.7	—	15.1	43.8
2025	—	31.3	—	1.1	32.4
2026	—	33.9	—	—	33.9
2027	—	33.6	—	—	33.6
Thereafter	6,053.5	5,487.6	963.9	—	12,505.0
Total debt maturities (b)	6,338.1	6,018.6	963.9	49.6	13,370.2
Deferred financing costs, discounts, premiums and accrued interest, net	55.4	53.0	11.6	1.5	121.5
Total debt	$ 6,393.5	$ 6,071.6	$ 975.5	$ 51.1	$ 13,491.7
Current portion	$ 365.8	$ 467.9	$ 17.5	$ 34.9	$ 886.1
Non-current portion	$ 6,027.7	$ 5,603.7	$ 958.0	$ 16.2	$ 12,605.6

(a) Amounts include SPE Notes issued by the UPCB SPE which, as described above, is consolidated by UPC Holding and Liberty Global.

(b) Amounts include vendor financing obligations of $704.7 million, as set forth below:

	UPC Holding	Telenet	Other	Total
		in millions		
Year ending December 31:				
2023	$ 284.6	$ 370.5	$ 33.4	$ 688.5
2024	—	—	15.1	15.1
2025	—	—	1.1	1.1
Total vendor financing maturities	$ 284.6	$ 370.5	$ 49.6	$ 704.7
Current portion	$ 284.6	$ 370.5	$ 33.4	$ 688.5
Non-current portion	$ —	$ —	$ 16.2	$ 16.2

Vendor Financing Obligations

A reconciliation of the beginning and ending balances of our vendor financing obligations for the indicated periods is set forth below:

	2022	2021
	in millions	
Balance at January 1	$ 843.2	$ 1,099.6
Vendor financing obligations of the U.K. JV Entities at January 1	—	2,805.8
Balance at January 1, including amounts classified as held for sale	843.2	3,905.4
Operating-related vendor financing additions	522.7	1,781.6
Capital-related vendor financing additions	182.8	661.1
Principal payments on operating-related vendor financing	(616.1)	(1,408.0)
Principal payments on capital-related vendor financing	(210.1)	(964.4)
Foreign currency, acquisitions and other	(17.8)	108.8
Total vendor financing obligations	704.7	4,084.5
Less: vendor financing obligations of the U.K. JV Entities (a)	—	(3,241.3)
Balance at December 31	$ 704.7	$ 843.2

(a) Represents vendor financing obligations of the U.K. JV Entities at June 1, 2021, the date of completion of the U.K. JV Transaction.

(16) Leases

General

We enter into leases for network equipment, real estate, mobile site sharing and vehicles. We provide residual value guarantees on certain of our vehicle leases.

ROU Assets

A summary of our ROU assets is set forth below:

	December 31,	
	2022	2021
	in millions	
Distribution systems	$ 1,741.9	$ 1,461.1
Support equipment, buildings and land	308.1	391.8
Total ROU assets (a)	$ 2,050.0	$ 1,852.9

(a) Our ROU assets are included within property and equipment, net, in our consolidated statements of financial position. At December 31, 2022, the weighted average remaining lease term was 13.2 years and the weighted average discount rate was 5.8%. During 2022 and 2021, we recorded additions to our ROU assets associated with leases of $397.7 million and $162.7 million, respectively.

Lease Expense

A summary of our aggregate lease expense is set forth below:

	Year ended December 31,	
	2022	2021
	in millions	
Lease expense:		
Depreciation and amortization:		
Distribution systems	$ 148.2	$ 160.2
Support equipment, buildings and land	71.5	95.5
Customer premises equipment	—	0.3
Total depreciation and amortization	219.7	256.0
Interest expense	111.0	109.3
Short-term lease expense (a)	4.0	5.0
Variable lease expense (b)	1.9	1.6
Total lease expense	$ 336.6	$ 371.9

(a) Our short-term lease expense is included in costs of services, G&A expenses and impairment, restructuring and other operating items, net in our consolidated statements of profit or loss.

(b) Variable lease expense represents payments made to a lessor during the lease term that vary because of a change in circumstance that occurred after the lease commencement date. Variable lease payments are expensed as incurred and are included in costs of services in our consolidated statements of profit or loss.

Lease Liabilities

Maturities of our lease liabilities as of December 31, 2022 are presented below and represent U.S. dollar equivalents based on December 31, 2022 exchange rates (in millions):

Year ending December 31:	
2023	$ 363.1
2024	282.8
2025	266.1
2026	250.9
2027	239.6
Thereafter	1,791.6
Total payments	3,194.1
Less: present value discount	(967.9)
Present value of lease payments	$ 2,226.2
Current portion (a)	$ 225.2
Non-current portion (a)	$ 2,001.0

(a) The current and non-current portions of our lease obligations are included in current portion of debt and lease obligations and non-current debt and lease obligations, respectively, in our consolidated statements of financial position.

Cash Flows from Leases

Our total cash outflows from leases during 2022 and 2021 were $322.7 million and $329.5 million, respectively.

(17) Provisions

A summary of changes of our provisions during 2022 is set forth below:

	Tax liabilities	Legal and regulatory	Asset retirement obligations	Restructuring	Employee benefit plans	Onerous contracts	Other	Total
				in millions				
January 1, 2022	$ 321.6	$ 104.8	$ 75.6	$ 32.3	$ 25.7	$ 19.6	$ 48.5	$ 628.1
Charges (credits) to the consolidated statement of profit or loss	6.2	50.9	(0.7)	13.3	(35.9)	(0.1)	6.0	39.7
Cash payments	—	—	—	(26.2)	(5.6)	—	—	(31.8)
Reclassification to assets held for sale	—	—	(11.1)	—	—	—	—	(11.1)
Foreign currency translation adjustments and other	(0.1)	(31.3)	25.7	(2.0)	20.2	(1.1)	(1.9)	9.5
December 31, 2022	$ 327.7	$ 124.4	$ 89.5	$ 17.4	$ 4.4	$ 18.4	$ 52.6	$ 634.4

See note 11 for information regarding our provisional tax liabilities.

(18) Employee Benefit Plans

Certain of our subsidiaries maintain various funded and unfunded defined benefit plans for their employees. The table below provides summary information on the defined benefit plans:

	Year ended December 31,	
	2022	2021
	in millions	
Fair value of plan assets (a)	$ 1,066.1	$ 1,269.9
Projected benefit obligation	$ 1,016.0	$ 1,280.5
Impact of minimum funding requirements/asset ceiling	$ 39.5	$ 7.5
Net asset (liability)	$ 10.6	$ (18.1)

____

(a) The fair value of plan assets at December 31, 2022 includes $976.6 million and $89.5 million that are valued based on Level 1 and Level 2 inputs, respectively, of the fair value hierarchy (as further described in note 10). Our plan assets comprise investments in debt securities, equity securities, hedge funds, insurance contracts and certain other assets.

Our net periodic pension cost was $40.6 million and $37.7 million during 2022 and 2021, respectively. These amounts exclude aggregate curtailment gains of nil and $20.2 million, respectively, which are included in impairment, restructuring and other operating items, net, in our consolidated statements of profit or loss.

(19) Segment Reporting

We generally identify our reportable segments as (i) those consolidated subsidiaries that represent 10% or more of our revenue, Adjusted EBITDA (as defined below) or total assets or (ii) those equity method affiliates where our investment or share of revenue or Adjusted EBITDA represents 10% or more of our total assets, revenue or Adjusted EBITDA, respectively. In certain cases, we may elect to include an operating segment in our segment disclosure that does not meet the above-described criteria for a reportable segment. We evaluate performance and make decisions about allocating resources to our operating segments based on financial measures such as revenue and Adjusted EBITDA. In addition, we review non-financial measures such as customer growth, as appropriate.

Adjusted EBITDA is the primary measure used by our chief operating decision maker to evaluate segment operating performance and is also a key factor that is used by our internal decision makers to (i) determine how to allocate resources to segments and (ii) evaluate the effectiveness of our management for purposes of annual and other incentive compensation plans. As we use the term, “Adjusted EBITDA” is defined as profit (loss) from continuing operations before net income tax benefit (expense), other non-operating income or expenses, net share of results of affiliates, net finance income or costs, 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 (a) gains and losses on the disposition of non-current assets, (b) third-party costs directly associated with successful and unsuccessful acquisitions and dispositions, including legal, advisory and due diligence fees, as applicable, and (c) other acquisition-related items, such as gains and losses on the settlement of contingent consideration. Our internal decision makers believe Adjusted EBITDA is a meaningful measure because it represents a transparent view of our recurring operating performance that is unaffected by our capital structure and allows management to (1) readily view operating trends, (2) perform analytical comparisons and benchmarking between segments and (3) identify strategies to improve operating performance in the different countries in which we operate. A reconciliation of profit or loss from continuing operations to Adjusted EBITDA is presented below.

As of December 31, 2022, our reportable segments are as follows:

Consolidated:

- Switzerland
- Belgium
- Ireland

Nonconsolidated:

- VMO2 JV
- VodafoneZiggo JV

On June 1, 2021, we completed the U.K. JV Transaction, whereby we contributed the U.K. JV Entities to the VMO2 JV. Prior to the completion of the U.K. JV Transaction, we presented the U.K. JV Entities, together with our operations in Ireland, as a single reportable segment, "*U.K./Ireland*". In connection with the completion of the U.K. JV Transaction, we have restated our segment presentation for all periods to separately present (i) the U.K. JV Entities and (ii) Ireland. In addition, certain other less significant entities previously included in the U.K./Ireland segment are now included within Central and Other (as defined below). Following the closing of the U.K. JV Transaction, we have identified the VMO2 JV as a nonconsolidated reportable segment. For additional information regarding the U.K. JV Transaction, see note 6.

All of our reportable segments derive their revenue primarily from residential and B2B communications services, including broadband internet, video, fixed-line telephony and mobile services.

Our "**Central and Other**" category primarily includes (i) our operations in Slovakia, (ii) services provided to the VMO2 JV, the VodafoneZiggo JV and various third parties related to transitional service agreements, (iii) sales of CPE to the VodafoneZiggo JV and (iv) certain centralized functions, including billing systems, network operations, technology, marketing, facilities, finance and other administrative functions.

We present only the reportable segments of our continuing operations in the tables below.

Performance Measures of Our Reportable Segments

The amounts presented below represent 100% of each of our reportable segment's revenue and Adjusted EBITDA. As we have the ability to control Telenet, we consolidate 100% of Telenet's revenue and expenses in our consolidated statements of profit or loss despite the fact that third parties own a significant interest. The noncontrolling owners' interests in the operating results of Telenet and other less significant majority-owned subsidiaries are reflected in net profit or loss attributable to noncontrolling interests in our consolidated statements of profit or loss. Similarly, despite only holding a 50% noncontrolling interest in both the VMO2 JV and the VodafoneZiggo JV, we present 100% of the revenue and Adjusted EBITDA of those entities in the tables below. Our share of the operating results of the VMO2 JV and the VodafoneZiggo JV is included in share of results of affiliates, net, in our consolidated statements of profit or loss.

	Year ended December 31,			
	2022		2021	
	Revenue	Adjusted EBITDA	Revenue	Adjusted EBITDA
	in millions			
Switzerland	$ 3,180.9	$ 1,272.0	$ 3,321.9	$ 1,375.2
Belgium	2,805.7	1,425.8	3,070.5	1,596.3
U.K. (a)	—	—	2,736.4	1,102.2
Ireland	494.7	200.5	550.0	222.2
Central and Other	722.4	(34.6)	648.7	(24.1)
Intersegment eliminations (b)	(9.6)	(1.0)	(11.6)	1.8
Total	$ 7,194.1	$ 2,862.7	$ 10,315.9	$ 4,273.6
VMO2 JV (c)	$ 12,817.8	$ 4,864.3	$ 8,430.0	$ 3,167.3
VodafoneZiggo JV	$ 4,284.6	$ 2,091.8	$ 4,824.2	$ 2,339.5

(a) Amounts represent the revenue and Adjusted EBITDA of the U.K. JV Entities through the June 1, 2021 closing of the U.K. JV Transaction.

(b) Amounts relate to transactions between our continuing and discontinued operations.

(c) The 2021 amounts represent the revenue and Adjusted EBITDA of the VMO2 JV for the period beginning June 1, 2021.

The following table provides a reconciliation of profit from continuing operations to Adjusted EBITDA:

	Year ended December 31,	
	2022	2021
	in millions	
Profit from continuing operations	$ 2,473.9	$ 14,048.8
Income tax expense (benefit)	200.3	(177.2)
Other expense (income), net	(22.7)	6.0
Gain on AtlasEdge JV Transactions	—	(211.3)
Gain on U.K. JV Transaction	—	(10,841.4)
Gain on Telenet Tower Sale Transaction	(391.9)	—
Share of results of affiliates, net	(407.0)	215.8
Net finance income	(1,681.5)	(1,657.2)
Operating profit	171.1	1,383.5
Impairment, restructuring and other operating items, net	102.6	(46.6)
Depreciation and amortization	2,386.4	2,603.4
Share-based compensation expense	202.6	333.3
Adjusted EBITDA	$ 2,862.7	$ 4,273.6

Property, Equipment and Intangible Asset Additions of our Reportable Segments

The property, equipment and intangible asset additions of our reportable segments are presented below. These amounts include capital additions financed under vendor financing or lease arrangements. For additional information concerning capital additions financed under vendor financing and lease arrangements, see note 7.

	Year ended December 31,			
	2022		2021	
	Intangible assets	Property and equipment	Intangible assets	Property and equipment
	in millions			
Switzerland	$ 150.7	$ 447.5	$ 179.0	$ 481.0
Belgium	764.3	669.7	327.2	335.8
U.K. (a)	—	—	68.6	489.6
Ireland	—	137.4	—	99.9
Central and Other (b)	220.7	41.9	282.5	84.7
Total additions	$ 1,135.7	$ 1,296.5	$ 857.3	$ 1,491.0
VMO2 JV (c)	$ 309.1	$ 2,670.2	$ 219.2	$ 1,638.3
VodafoneZiggo JV	$ 144.7	$ 854.6	$ 360.1	$ 815.8

(a) Amounts represent the property, equipment and intangible asset additions of the U.K. JV Entities through the June 1, 2021 closing of the U.K. JV Transaction.

(b) Includes (i) property, equipment and intangible asset additions representing centrally-owned assets that benefit our operating segments, (ii) the net impact of certain centrally-procured network equipment that is ultimately transferred to our operating segments and (iii) property, equipment and intangible asset additions of our operations in Slovakia.

(c) The 2021 amounts represent the property, equipment and intangible assets additions of the VMO2 JV for the period beginning June 1, 2021.

The following table provides a reconciliation of our total property, equipment and intangible asset additions to the total capital expenditure amounts included in our consolidated statements of cash flows:

	Year ended December 31,	
	2022	2021
	in millions	
Total property, equipment and intangible asset additions	$ 2,432.2	$ 2,348.3
Assets acquired under capital-related vendor financing arrangements	(182.8)	(661.1)
Assets acquired under leases	(397.7)	(162.7)
Changes in current liabilities related to capital expenditures	(485.2)	(46.2)
Total capital expenditures, net	$ 1,366.5	$ 1,478.3

Revenue by Major Category

Our revenue by major category for our consolidated reportable segments is set forth below:

	Year ended December 31,	
	2022	2021
	in millions	
Residential revenue:		
Residential fixed revenue (a):		
Subscription revenue (b):		
Broadband internet	$ 1,378.2	$ 2,371.7
Video	1,075.8	1,836.4
Fixed-line telephony	381.4	841.1
Total subscription revenue	2,835.4	5,049.2
Non-subscription revenue	94.5	161.2
Total residential fixed revenue	2,929.9	5,210.4
Residential mobile revenue (c):		
Subscription revenue (b)	1,401.4	1,630.7
Non-subscription revenue	543.7	760.8
Total residential mobile revenue	1,945.1	2,391.5
Total residential revenue	4,875.0	7,601.9
B2B revenue (d):		
Subscription revenue	515.1	619.0
Non-subscription revenue	861.7	1,243.8
Total B2B revenue	1,376.8	1,862.8
Other revenue (e)	942.3	851.2
Total	$ 7,194.1	$ 10,315.9

____

(a) Residential fixed subscription revenue includes amounts received from subscribers for ongoing services and the recognition of deferred installation revenue over the associated contract period. Residential fixed non-subscription revenue includes, among other items, channel carriage fees, late fees and revenue from the sale of equipment.

(b) Residential 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 fixed and mobile products or the composition of bundles can contribute to changes in our product revenue categories from period to period.

(c) Residential mobile subscription revenue includes amounts received from subscribers for ongoing services. Residential mobile non-subscription revenue includes, among other items, interconnect revenue and revenue from sales of mobile handsets and other devices.

(d) B2B subscription revenue represents revenue from (i) services provided to small or home office (**SOHO**) subscribers and (ii) mobile services provided to medium and large enterprises. SOHO subscribers pay a premium price to receive expanded service levels along with broadband internet, video, fixed-line telephony or mobile services that are the same or similar to the mass marketed products offered to our residential subscribers. B2B non-subscription revenue includes (a) revenue from business broadband internet, video, fixed-line telephony and data services offered to medium and large enterprises and, fixed-line and mobile services on a wholesale basis, to other operators and (b) revenue from long-term leases of portions of our network.

(e) Other revenue includes, among other items, (i) revenue earned from the U.K. JV Services and NL JV Services, (ii) broadcasting revenue in Belgium and Ireland, (iii) revenue earned from transitional and other services provided to various third parties and (iv) revenue earned from the sale of CPE to the VodafoneZiggo JV.

Geographic Segments

The revenue of our geographic segments is set forth below:

	Year ended December 31,	
	2022	2021
	in millions	
Switzerland	$ 3,180.9	$ 3,321.9
Belgium	2,805.7	3,070.5
U.K. (a)	—	2,736.4
Ireland	494.7	550.0
Slovakia	49.9	52.3
Other, including intersegment eliminations (b)	662.9	584.8
Total	$ 7,194.1	$ 10,315.9
VMO2 JV (U.K.) (c)	$ 12,817.8	$ 8,430.0
VodafoneZiggo JV (the Netherlands)	$ 4,284.6	$ 4,824.2

(a) Amounts represent the revenue of the U.K. JV Entities through the June 1, 2021 closing of the U.K. JV Transaction.

(b) Primarily relates to revenue associated with our Central functions, most of which is located in the Netherlands and the U.K.

(c) The 2021 amount represents the revenue of the VMO2 JV for the period beginning June 1, 2021.

A summary of the property and equipment, goodwill and intangible assets of our geographic segments are set forth below:

	Year ended December 31,	
	2022	2021
	in millions	
Switzerland	$ 11,859.4	$ 12,620.8
Belgium	6,147.8	5,869.0
Ireland	808.9	788.0
Slovakia	118.7	124.2
Other (a)	630.7	809.1
Total	$ 19,565.5	$ 20,211.1
VMO2 JV (U.K.)	$ 36,934.8	$ 43,034.0
VodafoneZiggo JV (the Netherlands)	$ 17,828.5	$ 17,238.5

(a) Primarily relates to certain long-lived assets associated with our Central functions located in the Netherlands, the U.K. and the U.S.

(20) Financial Risk Management

Overview

We have exposure to the following risks that arise from our financial instruments:

- Credit Risk
- Liquidity Risk
- Market Risk

Our exposure to each of these risks, the policies and procedures that we use to manage these risks and our approach to capital management are discussed below.

Credit Risk

Credit risk is the risk that we would experience financial loss if our customers or the counterparties to our financial instruments and cash investments were to default on their obligations to us.

We manage the credit risks associated with our trade receivables by performing credit verifications, following established dunning procedures and engaging collection agencies. We also manage this risk by disconnecting services to customers whose accounts are delinquent. Concentration of credit risk with respect to trade receivables is limited due to the large number of customers and their dispersion across many different countries. For information regarding the aging of our trade receivables, see note 12.

We are exposed to the risk that the counterparties to the derivative instruments, undrawn debt facilities and cash investments of our subsidiary borrowing groups 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 and undrawn debt facilities is spread across a relatively broad counterparty base of banks and financial institutions, however notwithstanding, given the size of our derivative portfolio, the default of certain counterparties could have a significant impact on our consolidated statements of profit or loss. Collateral is generally not posted by either party under the derivative instruments of our subsidiary borrowing groups. Most of our cash currently is invested in either (i) AAA-rated money market funds, including funds that invest in government obligations, or (ii) overnight deposits with banks having a minimum credit rating of A by Standard & Poor's or an equivalent rating by Moody's Investor Service. To date, neither the access to nor the value of our cash and cash equivalent balances have been adversely impacted by liquidity problems of financial institutions.

At December 31, 2022 and 2021, our exposure to counterparty credit risk included (i) cash and cash equivalent and restricted cash balances of $1.7 billion and $0.9 billion, respectively, (ii) aggregate undrawn debt facilities of $1.5 billion and $1.6 billion, respectively, and (iii) derivative assets with an aggregate fair value of $922.5 million and $57.8 million, respectively.

Each of our subsidiary borrowing groups 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 are limited to the derivative instruments governed by the relevant master agreement within each individual borrowing group and are independent of similar arrangements of our other subsidiary borrowing groups.

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.

While we currently have no specific concerns about the creditworthiness of any counterparty for which we have material credit risk exposures, we cannot rule out the possibility that one or more of our counterparties could fail or otherwise be unable to meet its obligations to us. Any such instance could have an adverse effect on our cash flows, results of operations, financial condition and/or liquidity.

Although we actively monitor the creditworthiness of our key vendors, the financial failure of a key vendor could disrupt our operations and have an adverse impact on our revenue and cash flows.

Liquidity Risk

Liquidity risk is the risk that we will encounter difficulty in meeting our financial obligations. In addition to cash and cash equivalents, our primary sources of liquidity are cash provided by operations and access to the available borrowing capacity of our various debt facilities. For information regarding our borrowing availability, see note 15.

Our short- and long-term liquidity requirements include corporate general and administrative expenses and, from time to time, cash requirements in connection with (i) the repayment of third-party and intercompany debt, (ii) the satisfaction of contingent liabilities, (iii) acquisitions, (iv) the repurchase of equity and debt securities, (v) other investment opportunities, (vi) any funding requirements of our subsidiaries and affiliates or (vii) income tax payments. In addition, our parent entity uses available liquidity to make interest and principal payments on notes payable to certain of our unrestricted subsidiaries (aggregate outstanding principal of $12.7 billion at December 31, 2022 with varying maturity dates).

Our most significant financial obligations relate to our debt obligations, as described in note 15. The terms of our debt instruments contain certain restrictions, including covenants that restrict our ability to incur additional debt. As a result, additional debt financing is only a potential source of liquidity if the incurrence of any new debt is permitted by the terms of our existing debt agreements.

Our short-term sources of corporate liquidity include (i) cash and cash equivalents held by Liberty Global and, subject to certain tax and legal considerations, Liberty Global's unrestricted subsidiaries, (ii) investments held under SMAs, (iii) interest and dividend income received on our and, subject to certain tax and legal considerations, our unrestricted subsidiaries' cash and cash equivalents and investments, including dividend distributions received from the VMO2 JV or the VodafoneZiggo JV, (iv) cash received with respect to transitional and other services provided to various third parties and (v) interest payments received with respect to the VodafoneZiggo JV Receivables.

From time to time, Liberty Global and its unrestricted subsidiaries may also receive (i) proceeds in the form of dividend distributions or loan repayments from Liberty Global's borrowing groups or affiliates (including amounts from the VMO2 JV or the VodafoneZiggo JV) upon (a) the completion of recapitalizations, refinancings, asset sales or similar transactions by these entities or (b) the accumulation of excess cash from operations or other means, (ii) proceeds upon the disposition of investments and other assets of Liberty Global and its unrestricted subsidiaries, such as the sale of UPC Poland, and (iii) proceeds in connection with the incurrence of debt by Liberty Global or its unrestricted subsidiaries or the issuance of equity securities by Liberty Global, including equity securities issued to satisfy subsidiary obligations. No assurance can be given that any external funding would be available to Liberty Global or its unrestricted subsidiaries on favorable terms, or at all.

Our ability to generate cash from our operations will depend on our future operating performance, which is in turn dependent, to some extent, on general economic, financial, competitive, market, regulatory and other factors, many of which are beyond our control. We believe that our sources of liquidity will be sufficient to fund our currently anticipated working capital needs, capital expenditures and other liquidity requirements during the next 12 months, although no assurance can be given that this will be the case. 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 and equity markets we access and, accordingly, our future liquidity and financial position. 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.

We use budgeting and cash flow forecasting tools to ensure that we will have sufficient resources to timely meet our liquidity requirements. We also maintain a liquidity reserve to provide for unanticipated cash outflows.

The following table shows the timing of expected payments (receipts) based on the contractually agreed upon terms for our financial liabilities as of December 31, 2022.

	Payments (receipts) due during:						
	2023	2024	2025	2026	2027	Thereafter	Total
				in millions			
Debt:							
Principal	$ 721.5	$ 43.8	$ 32.4	$ 33.9	$ 33.6	$ 12,505.0	$ 13,370.2
Interest (a)	716.9	735.0	683.2	672.4	673.5	988.9	4,469.9
Leases (a)	363.1	282.8	266.1	250.9	239.6	1,791.6	3,194.1
Accounts payable	610.1	—	—	—	—	—	610.1
VAT payable	60.3	—	—	—	—	—	60.3
Projected derivative cash receipts, net (b)	(90.2)	(379.2)	(249.9)	(222.3)	(268.6)	(352.1)	(1,562.3)
Total	$ 2,381.7	$ 682.4	$ 731.8	$ 734.9	$ 678.1	$ 14,933.4	$ 20,142.3

(a) Amounts are based on interest rates, interest payment dates, commitment fees and contractual maturities in effect as of December 31, 2022. These amounts are presented for illustrative purposes only and will likely differ from the actual cash payments required in future periods. Amounts presented for leases include both principal and interest.

(b) The U.S. dollar equivalents of our net projected cash flows associated with our derivative instruments are based on interest rate projections and exchange rates as of December 31, 2022. These amounts are presented for illustrative purposes only and will likely differ from the actual cash receipts required in future periods. For additional information regarding our derivative instruments, see note 9.

Market Risk

Interest Rate Risk

We are exposed to changes in interest rates primarily as a result of our borrowing activities, which include fixed-rate and variable-rate borrowings by our borrowing groups. Our primary exposure to variable-rate debt is through the EURIBOR-indexed and LIBOR-indexed debt of our borrowing groups and the variable-rate debt of certain of our other subsidiaries.

In general, we enter into derivative instruments to protect against increases in the interest rates on our variable-rate debt. Accordingly, we have entered into various derivative transactions to manage exposure to increases in interest rates. We use interest rate derivative contracts to exchange, at specified intervals, the difference between fixed and variable interest rates calculated by reference to an agreed upon notional principal amount. From time to time, we also use interest rate cap, floor and collar agreements and swaptions that lock in a maximum interest rate if variable rates rise, but also allow our company to benefit, to a limited extent in the case of collars, from declines in market rates. Under our current guidelines, we use various interest rate derivative instruments to mitigate interest rate risk. The final maturity dates of our various portfolios of interest rate

derivative instruments might, in some instances, fall short of the respective maturities of the underlying variable-rate debt. In this regard, we use judgment to determine the appropriate composition and maturity dates of our portfolios of interest rate derivative instruments, taking into account the relative costs and benefits of different maturity profiles in light of current and expected future market conditions, liquidity issues and other factors. For additional information concerning the impacts of these interest rate derivative instruments, see note 9.

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. Additionally, the European Money Markets Institute (the authority that administers EURIBOR) announced that measures would need to be undertaken by the end of 2021 to reform EURIBOR to ensure compliance with the E.U. Benchmarks Regulation. In November 2020, ICE Benchmark Administration (the entity that administers LIBOR) announced its intention to continue publishing USD LIBOR rates until June 30, 2023, with the exception of the one-week and two-month rates which, along with all CHF and GBP LIBOR rates, it ceased to publish after December 31, 2021. Furthermore, in November 2022, the U.K. Financial Conduct Authority proposed that certain tenors of USD LIBOR would continue to be published on a synthetic basis until the end of September 2024. While this extension allows additional runway on existing contracts using USD LIBOR rates, companies are still encouraged to transition away from using USD LIBOR as soon as practicable and should not enter into new contracts that use USD LIBOR after 2021. The methodology for EURIBOR has been reformed and EURIBOR has been granted regulatory approval to continue to be used. Currently, there is no consensus amongst loan borrowers and investors for what rate(s) should replace USD LIBOR.

In October 2020, the International Swaps and Derivatives Association (the **ISDA**) launched the Fallback Supplement, which, as of January 25, 2021, amended the standard definitions for interest rate derivatives to incorporate fallbacks for derivatives linked to certain key IBORs. The ISDA also launched the Fallback Protocol, a protocol that enables market participants to incorporate these revisions into their legacy non-cleared derivatives with other counterparties that choose to adhere to the protocol. The fallbacks for a particular currency apply following a permanent cessation of the IBOR in that currency, or in the case of a LIBOR setting, that LIBOR setting becoming permanently unrepresentative, and are adjusted versions of the risk-free rates identified in each currency. Our credit agreements contain provisions that contemplate alternative calculations of the base rate applicable to our LIBOR-indexed and EURIBOR-indexed debt to the extent LIBOR or EURIBOR (as applicable) are not available, which alternative calculations we do not anticipate will be materially different from what would have been calculated under LIBOR or EURIBOR (as applicable). Additionally, no mandatory prepayment or redemption provisions would be triggered under our credit agreements in the event that either the LIBOR rate or the EURIBOR rate is not available. It is possible, however, that any new reference rate that applies to our LIBOR-indexed or EURIBOR-indexed debt could be different from any new reference rate that applies to our LIBOR-indexed or EURIBOR-indexed derivative instruments. For discontinued currencies and tenors, we expect to continue taking steps to mitigate the changes in these benchmark rates, including by amending existing credit agreements and adhering to the Fallback Protocol, where appropriate. We plan to continue to manage 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 our subsidiaries may incur significant associated costs.

Weighted Average Variable Interest Rate. At December 31, 2022 and 2021, the outstanding principal amount of our variable-rate indebtedness aggregated \$9.3 billion and \$9.6 billion, respectively, and the weighted average interest rate (including margin) on such variable-rate indebtedness was approximately 5.9% and 2.7%, respectively, excluding the effects of interest rate derivative contracts, deferred financing costs, original issue premiums or discounts and commitment fees, all of which affect our overall cost of borrowing. Assuming no change in the amount outstanding at December 31, 2022, and without giving effect to any interest rate derivative contracts, deferred financing costs, original issue premiums or discounts and commitment fees, a hypothetical 50 basis point (0.50%) increase (decrease) in our weighted average variable interest rate would increase (decrease) our annual consolidated interest expense and cash outflows by \$46.5 million. As discussed above and in note 9, we use interest rate derivative contracts to manage our exposure to increases in variable interest rates. In this regard, increases in the fair value of these contracts generally would be expected to offset most of the economic impact of increases in the variable interest rates applicable to our indebtedness to the extent and during the period that principal amounts are matched with interest rate derivative contracts.

Foreign Currency Risk

We are exposed to foreign currency exchange rate risk with respect to our consolidated debt in situations where our debt is denominated in a currency other than the functional currency of the operations whose cash flows support our ability to repay or refinance such debt. Although we generally match the denomination of our and our subsidiaries' borrowings with the functional currency of the operations that are supporting the respective borrowings, market conditions or other factors may cause us to enter into borrowing arrangements that are not denominated in the functional currency of the underlying operations (unmatched debt). In these cases, our policy is 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, 2022, substantially all of our debt was either directly or synthetically matched to the applicable functional currencies of the underlying operations. For additional information concerning the terms of our derivative instruments, see note 9.

In addition to the exposure that results from the mismatch of our borrowings and underlying functional currencies, we are exposed to foreign currency risk to the extent that we enter into transactions denominated in currencies other than our or our subsidiaries' respective functional currencies (non-functional currency risk), such as equipment purchases, programming contracts, notes payable and notes receivable (including intercompany amounts). Changes in exchange rates with respect to amounts recorded in our consolidated statements of financial position related to these items will result in unrealized (based upon period-end exchange rates) or realized foreign currency transaction gains and losses upon settlement of the transactions. Moreover, to the extent that our revenue, costs and expenses are denominated in currencies other than our respective functional currencies, we will experience fluctuations in our revenue, costs and expenses solely as a result of changes in foreign currency exchange rates. Generally, we will consider hedging non-functional currency risks when the risks arise from agreements with third parties that involve the future payment or receipt of cash or other monetary items to the extent that we can reasonably predict the timing and amount of such payments or receipts and the payments or receipts are not otherwise hedged. In this regard, we have entered into foreign currency forward and option contracts to hedge certain of these risks. For additional information concerning our foreign currency forward and option contracts, see note 9.

We are also exposed to unfavorable and potentially volatile fluctuations of the U.S. dollar (our reporting currency) against the currencies of our operating subsidiaries when their respective financial statements are translated into U.S. dollars for inclusion in the Consolidated Financial Statements. Cumulative translation adjustments are recorded in foreign currency translation reserve as a separate component of equity. Any increase (decrease) in the value of the U.S. dollar against any foreign currency that is the functional currency of one of our operating subsidiaries will cause us to experience unrealized foreign currency translation losses (gains) with respect to amounts already invested in such foreign currencies. Accordingly, we may experience a negative impact on our comprehensive income or loss and equity with respect to our holdings solely as a result of FX. Our primary exposure to FX risk during the three months ended December 31, 2022 was to the euro and Swiss franc, as 55.1% and 43.6% of our reported revenue during the period was derived from subsidiaries whose functional currencies are the euro and Swiss franc, respectively. In addition, our reported operating results are impacted by changes in the exchange rates for other local currencies in Europe. We do not hedge against the risk that we may incur non-cash losses upon the translation of the financial statements of our subsidiaries and affiliates into U.S. dollars.

Capital Management

We seek to maintain our debt at levels that provide for attractive equity returns without assuming undue risk. In this regard, we generally seek to cause our operating subsidiaries to maintain their debt at levels that result in a consolidated debt balance (measured using subsidiary debt figures at swapped foreign currency exchange rates, consistent with the covenant calculation requirements of our subsidiary debt agreements) that is between four and five times our consolidated Adjusted EBITDA, although the timing of our acquisitions and financing transactions and the interplay of average and spot foreign currency rates may impact this ratio. Consolidated Adjusted EBITDA is a non-GAAP measure, which investors should view as a supplement to, and not a substitute for, IFRS measures of performance included in our consolidated statements of profit or loss.

Our ability to service or refinance our debt and to maintain compliance with the leverage covenants in the credit agreements and indentures of our borrowing groups is dependent primarily on our ability to maintain or increase the Adjusted EBITDA of our operating subsidiaries and to achieve adequate returns on our property, equipment and intangible asset additions and acquisitions. For additional information regarding our debt, see note 15.

(21) Commitments and Contingencies

Commitments

In the normal course of business, we enter into agreements that commit our company to make cash payments in future periods with respect to network and connectivity commitments, purchases of CPE and other equipment and services, programming contracts and other items. The following table sets forth the U.S. dollar equivalents of such commitments as of December 31, 2022. The commitments included in this table do not reflect any liabilities that are included in our December 31, 2022 consolidated statement of financial position.

	Payments due during:						
	2023	2024	2025	2026	2027	Thereafter	Total
				in millions			
Network and connectivity commitments	$ 245.7	$ 180.9	$ 126.6	$ 75.7	$ 71.4	$ 827.5	$ 1,527.8
Purchase commitments	569.2	120.3	48.2	14.2	1.1	0.2	753.2
Programming commitments	177.1	154.0	92.3	42.2	19.9	—	485.5
Other commitments	119.0	151.0	157.7	121.7	28.3	117.2	694.9
Total	$ 1,111.0	$ 606.2	$ 424.8	$ 253.8	$ 120.7	$ 944.9	$ 3,461.4

Network and connectivity commitments include (i) Telenet's commitments for certain operating costs associated with its leased network and (ii) certain network capacity arrangements in Switzerland. Telenet's commitments for certain operating costs are subject to adjustment based on changes in the network operating costs incurred by Telenet with respect to its own networks. These potential adjustments are not subject to reasonable estimation and, therefore, are not included in the above table.

Purchase commitments include unconditional and legally binding obligations related to (i) certain service-related commitments, including information technology, maintenance and call center services and (ii) the purchase of CPE, network and other equipment.

Programming commitments consist of obligations associated with certain of our programming, studio output and sports rights 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, (ii) whether we terminate service to a portion of our subscribers or dispose of a portion of our distribution systems or (iii) whether we discontinue our premium sports services. 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 this will continue to be the case in future periods. In this regard, our total programming and copyright costs aggregated $448.0 million and $1,053.7 million (including amounts related to the U.K. JV Entities through the June 1, 2021 closing of the U.K. JV Transaction) during 2022 and 2021, respectively.

Other commitments include (i) our share of the funding commitment associated with a newly-formed infrastructure joint venture in the U.K. (the **nexfibre JV**) and (ii) various sports sponsorships.

In addition to the commitments set forth in the table above, we have significant commitments under (i) derivative instruments and (ii) defined benefit plans and similar agreements, 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, see note 9. For information regarding our defined benefit plans, see note 18.

We also have commitments pursuant to agreements with, and obligations imposed by, franchise authorities and municipalities, which may include obligations in certain markets to move aerial cable to underground ducts or to upgrade, rebuild or extend portions of our broadband communication systems. Such amounts are not included in the above table because they are not fixed or determinable.

We have established various defined contribution benefit plans for our and our subsidiaries' employees. Our aggregate expense for matching contributions under the various defined contribution employee benefit plans was $22.2 million and $30.1 million (including amounts related to the U.K. JV Entities through the June 1, 2021 closing of the U.K. JV Transaction) during 2022 and 2021, respectively.

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.

Legal and Regulatory Proceedings and Other Contingencies

Interkabel Acquisition. On November 26, 2007, Telenet and four associations of municipalities in Belgium, which we refer to as the pure intercommunales or the "**PICs**," announced a non-binding agreement-in-principle to transfer the analog and digital television activities of the PICs, including all existing subscribers, to Telenet. Subsequently, Telenet and the PICs entered into a binding agreement (the **2008 PICs Agreement**), which closed effective October 1, 2008. Beginning in December 2007, Proximus NV/SA (**Proximus**), the incumbent telecommunications operator in Belgium, instituted several proceedings seeking to block implementation of these agreements. Proximus lodged summary proceedings with the President of the Court of First Instance of Antwerp to obtain a provisional injunction preventing the PICs from effecting the agreement-in-principle and initiated a civil procedure on the merits claiming the annulment of the agreement-in-principle. In March 2008, the President of the Court of First Instance of Antwerp ruled in favor of Proximus in the summary proceedings, which ruling was overturned by the Court of Appeal of Antwerp in June 2008. Proximus brought an appeal judgment before the Belgian Supreme Court, which confirmed the appeal judgment in September 2010. On April 6, 2009, the Court of First Instance of Antwerp ruled in favor of the PICs and Telenet in the civil procedure on the merits, dismissing Proximus' request for the rescission of the agreement-in-principle and the 2008 PICs Agreement. On June 12, 2009, Proximus appealed this judgment to the Court of Appeal of Antwerp. In this appeal, Proximus also sought compensation for damages. While these proceedings were suspended indefinitely, other proceedings were initiated, which resulted in a ruling by the Belgian Council of State in May 2014 annulling (i) the decision of the PICs not to organize a public market consultation and (ii) the decision from the PICs' board of directors to approve the 2008 PICs Agreement. In December 2015, Proximus resumed the civil proceedings pending with the Court of Appeal of Antwerp seeking to have the 2008 PICs Agreement annulled and claiming damages of €1.4 billion ($1.5 billion).

On December 18, 2017, the Court of Appeal of Antwerp rejected Proximus' claim in its entirety. On June 28, 2019, Proximus brought this appeal judgment before the Belgian Supreme Court. On January 22, 2021, the Belgian Supreme Court partially annulled the judgment of the Court of Appeal of Antwerp. The case was referred to the Court of Appeal of Brussels and is currently pending with this Court which will need to make a new decision on the matter within the boundaries of the annulment by the Belgian Supreme Court. It is likely that it will take the Court of Appeal of Brussels several years to decide on the matter.

No assurance can be given as to the outcome of these or other proceedings. However, an unfavorable outcome of existing or future proceedings could potentially lead to the annulment of the 2008 PICs Agreement. We do not expect the ultimate resolution of this matter to have a material impact on our results of operations, cash flows or financial position. No amounts have been accrued by us with respect to this matter as the likelihood of loss is not considered to be more likely than not.

Telekom Deutschland Litigation. On December 28, 2012, Unitymedia filed a lawsuit against Telekom Deutschland GmbH (**Telekom Deutschland**) in which Unitymedia asserted that it pays excessive prices for the co-use of Telekom Deutschland's cable ducts in Unitymedia's footprint. The Federal Network Agency approved rates for the co-use of certain ducts of Telekom Deutschland in March 2011. Based in part on these approved rates, Unitymedia sought a reduction of the annual lease fees by approximately five-sixths. In addition, Unitymedia sought the return of similarly calculated overpayments from 2009 through the ultimate settlement date, plus accrued interest. In October 2016, the first instance court dismissed this action, and in March 2018, the court of appeal dismissed Unitymedia's appeal of the first instance court's decision Unitymedia has since successfully appealed the case to the Federal Court of Justice, and proceedings continue before the German courts. The resolution of this matter may take several years and no assurance can be given that Unitymedia's claims will be successful. In connection with our sale of our former operations in Germany, Romania, Hungary and the Czech Republic to Vodafone (the Vodafone Disposal

Group) in 2019, we will only share in 50% of any amounts recovered, plus 50% of the net present value of certain cost savings in future periods that are attributable to the favorable resolution of this matter, less 50% of associated legal or other third-party fees paid post-completion of the sale of the Vodafone Disposal Group. Any amount we may recover related to this matter will not be reflected in our consolidated financial statements until such time as the final disposition of this matter has been reached.

Belgium Regulatory Developments. In June 2018, the Belgisch Instituut voor Post en Telecommunicatie and the regional regulators for the media sectors (together, the **Belgium Regulatory Authorities**) adopted a new decision finding that Telenet has significant market power in the wholesale broadband market (the **2018 Decision**). The 2018 Decision imposes on Telenet the obligations to (i) provide third-party operators with access to the digital television platform (including basic digital video and analog video) and (ii) make available to third-party operators a bitstream offer of broadband internet access (including fixed-line telephony as an option). On May 26, 2020, the Belgium Regulatory Authorities adopted a final decision regarding the "reasonable access tariffs" (the **2020 Decision**) that became effective on July 1, 2020. Telenet appealed the 2018 Decision, which was rejected by the Brussels Court of Appeal on September 4, 2019.

The 2020 Decision aims to, and in its application, may strengthen Telenet's competitors by granting them resale access to Telenet's network to offer competing products and services notwithstanding Telenet's substantial historical financial outlays in developing the infrastructure. In addition, any resale access granted to competitors could (i) limit the bandwidth available to Telenet to provide new or expanded products and services to the customers served by its network and (ii) adversely impact Telenet's ability to maintain or increase its revenue and cash flows. The extent of any such adverse impacts ultimately will be dependent on the extent that competitors take advantage of the resale access afforded to Telenet's network, the rates that Telenet receives for such access and other competitive factors or market developments.

UPC Austria Matter. On July 31, 2018, we completed the sale of our Austrian operations, "**UPC Austria**," to Deutsche Telekom AG (**Deutsche Telekom**). In October 2019, we received notification under the terms of the relevant acquisition agreements from Deutsche Telekom and its subsidiary, T-Mobile Austria Holding GmbH, (together, the **UPC Austria Sale Counterparties**), asserting claims that totaled €126.3 million ($135.3 million), plus interest, as of June 30, 2022. In July 2022, we agreed with the UPC Austria Sale Counterparties to resolve the matter, the terms of which were not material to us and were accrued in our consolidated financial statements during the second quarter of 2022.

Swisscom MVNO Matter. On December 8, 2017, one of our subsidiaries, UPC Schweiz GmbH, entered into a mobile virtual network operator (**MVNO**) agreement with Swisscom (Schweiz) AG (**Swisscom**), as subsequently amended (the **Swisscom MVNO**), for the provision of mobile network services to certain of Sunrise's end customers. Swisscom has claimed that UPC Schweiz GmbH is in breach of the Swisscom MVNO, and in May 2022, Swisscom initiated a debt collection proceeding against Sunrise, claiming approximately CHF 90 million ($98 million) in damages. Swisscom then filed a formal lawsuit against Sunrise on January 11, 2023, in relation to this matter. We believe the assertions in this claim are unsupported by the terms of the Swisscom MVNO. As such, no amounts have been accrued by us with respect to this matter, as the likelihood of loss is not considered to be probable at this stage. We intend to vigorously defend this matter.

Other Contingency Matters. In connection with the dispositions of certain of our operations, we provided tax indemnities to the counterparties for certain tax liabilities that could arise from the period we owned the respective operations, subject to certain thresholds. While we have not received notification from the counterparties for indemnification, it is reasonably possible that we could, and the amounts involved could be significant. No amounts have been accrued by our company as the likelihood of any loss is not considered to be probable. Further, Liberty Global may be entitled to certain amounts that our disposed operations may recover from taxing authorities. Any such amounts will not be reflected in our consolidated financial statements until such time as the final disposition of such matters has been reached.

Other Regulatory Matters. Video distribution, broadband internet, fixed-line telephony, mobile and content businesses are regulated in each of the countries in which we or our affiliates operate. The scope of regulation varies from country to country, although in some significant respects regulation in European markets is harmonized under the regulatory structure of the European Union (**E.U.**). 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, equipment and intangible asset additions. Regulation may also 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.

In addition to the foregoing items, 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, withholding 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, in general, to 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.

(22) Expenses by Nature

The following table summarizes our expenses for employee-related expenses (included in costs of services, G&A and selling expenses) and depreciation and amortization (included in costs of services and G&A expenses):

	Year ended December 31,	
	2022	2021
	in millions	
Employee-related expenses	$ 1,488.1	$ 2,083.5
Depreciation and amortization	$ 2,386.4	$ 2,603.4

(23) Key Management Personnel Compensation

Key management personnel comprise the members of the board of directors and key senior management of the company and its main subsidiaries. Their compensation is as follows:

	Year ended December 31,	
	2022	2021
	in millions	
Salaries and short-term benefits (a)	$ 36.7	$ 34.9
Share-based compensation	6.0	91.6
Post-employment benefits	0.9	0.7
	$ 43.6	$ 127.2

(a) Salaries and short-term benefits include salaries, bonus, directors' fees and certain other cash and non-cash benefits.

Executive officers also participate in our cash performance award program and equity award programs. Furthermore, employees are entitled to participate in a retirement savings plan which includes a company match in the form of equity shares.

(24) Finance Income and Costs

A summary of the finance income and costs that are included in our net finance income is set forth below:

	Year ended December 31,	
	2022	2021
	in millions	
Finance income:		
Foreign currency transaction gains, net	$ 1,415.8	$ 1,324.5
Realized and unrealized gains on derivative instruments, net	1,191.7	622.9
Interest and dividend income	76.6	13.9
Gains on debt extinguishment, net	2.8	—
Realized and unrealized gains due to changes in fair values of certain investments, net	—	769.4
Total finance income	2,686.9	2,730.7
Finance costs:		
Interest expense	$ (709.8)	$ (982.9)
Realized and unrealized losses due to changes in fair values of certain investments, net	(295.6)	—
Losses on debt extinguishment, net	—	(90.6)
Total finance costs	(1,005.4)	(1,073.5)
Net finance income	$ 1,681.5	$ 1,657.2

(25) Other Comprehensive Income (Loss) Accumulated in Reserves

Other comprehensive income (loss) reflects the aggregate impact of foreign currency translation adjustments and pension-related adjustments and other. The changes in the components of other comprehensive income (loss), net of taxes, are summarized as follows:

	Foreign currency translation reserve (a)	Other reserves	Pension reserves (included in retained earnings) (b)	Non-controlling interests	Total other comprehensive income (loss)
			in millions		
December 31, 2020	$ 1,990.7	$ 0.1	$ (167.4)	$ (2.1)	$ 1,821.3
Other comprehensive loss, net of taxes	(511.3)	(0.1)	221.7	1.5	(288.2)
December 31, 2021	1,479.4	—	54.3	(0.6)	1,533.1
Other comprehensive loss, net of taxes	(3,090.7)	—	(97.2)	2.2	(3,185.7)
December 31, 2022	$ (1,611.3)	$ —	$ (42.9)	$ 1.6	$ (1,652.6)

(a) The foreign currency translation adjustments included in other comprehensive income (loss) are net of income tax benefit of $1.3 million and $1.3 million for the years ended December 31, 2022 and 2021, respectively.

(b) The pension-related adjustments included in other comprehensive income (loss) are net of income tax expense of $3.5 million and $12.0 million for the years ended December 31, 2022 and 2021, respectively.

(26) Reconciliation of Movements in Liabilities to Cash Flows from Financing Activities

	Debt and lease obligations	Derivative (assets) liabilities	Total
		in millions	
January 1, 2022	$ 16,350.7	$ 369.6	$ 16,720.3
Cash flows from financing activities:			
Borrowings of debt	4.7	—	4.7
Operating-related vendor financing additions	522.7	—	522.7
Repayments and repurchases of debt and lease obligations:			
Debt (excluding vendor financing)	(980.9)	—	(980.9)
Principal payments on operating-related vendor financing	(616.1)	—	(616.1)
Principal payments on capital-related vendor financing	(210.1)	—	(210.1)
Principal payments on leases	(183.7)	—	(183.7)
Payment of financing costs and debt premiums	(28.5)	—	(28.5)
Net cash paid related to derivative instruments	—	(50.0)	(50.0)
Total cash flows from financing activities	14,858.8	319.6	15,178.4
Gains on debt extinguishment, net	(2.8)	—	(2.8)
Realized and unrealized gains on derivative instruments, net	—	(1,191.7)	(1,191.7)
Interest accruals	679.6	—	679.6
Interest payments	(623.4)	—	(623.4)
Effect of changes in foreign exchange rates	(368.9)	(59.9)	(428.8)
Other liability-related changes	1,166.5	116.4	1,282.9
December 31, 2022	$ 15,709.8	$ (815.6)	$ 14,894.2

(27) Supplemental Companies Act Disclosures

Employees

The details of our full-time equivalent employees are as follows:

	December 31, 2022	December 31, 2021
Country operations	7,900	7,800
Corporate	2,200	2,100
Total	10,100	9,900

Directors' Remuneration

A discussion of our directors' remuneration appears in the *Directors' Remuneration Report* included in this annual report.

Audit Fees

The following table presents fees for professional audit services rendered by KPMG LLP (U.K.) and its international affiliates (including KPMG LLP (U.S.)) during 2022 and 2021 for the audits of the consolidated financial statements and the separate financial statements of certain of our subsidiaries and for other services rendered by KPMG LLP and its international affiliates.

Fees billed in currencies other than U.S. dollars were translated into U.S. dollars at the average exchange rate in effect for the applicable period.

	Year ended December 31,	
	2022	2021
	in millions	
Audit fees for these financial statements (a)	$ 8.4	$ 9.7
Audit fees for financial statements of subsidiaries pursuant to legislation	0.1	0.5
Total	$ 8.5	$ 10.2

(a) Represents audit fees for the consolidated financial statements, including inseparable internal control and other audit procedures performed during interim reviews.

(28) List of Subsidiaries and Joint Ventures

At December 31, 2022, our subsidiaries are as follows:

Name of subsidiary	Country of incorporation	Holdings	Proportion of shares held by direct owner	Nature of business	Registered address
Beluga Tree NV	Belgium	Ordinary	70.0%	Telecoms	(3)
Caviar Antwerp BV	Belgium	Ordinary	100.0%	Telecoms	(3)
Caviar Film Financing BV	Belgium	Ordinary	100.0%	Telecoms	(3)
Caviar Group NV	Belgium	Ordinary	70.0%	Telecoms	(3)
Connectify NV	Belgium	Ordinary	60.1%	Telecoms	(3)
Décor Oyenbrug BV	Belgium	Ordinary	100.0%	Telecoms	(3)
Initials LA BV	Belgium	Ordinary	90.0%	Telecoms	(3)
Loft International BV	Belgium	Ordinary	100.0%	Telecoms	(3)
Loom BV	Belgium	Ordinary	100.0%	Telecoms	(3)
MaRo NV	Belgium	Ordinary	100.0%	Real Estate	(3)
Native Nation BV	Belgium	Ordinary	100.0%	Telecoms	(3)
Roses Are Blue BV	Belgium	Ordinary	95.0%	Telecoms	(3)
SBS Belgium NV	Belgium	Ordinary	100.0%	Telecoms	(3)
Telenet BV	Belgium	Ordinary / preferred	100.0%	Telecoms/ Subholding	(4)
Telenet Group Holding N.V.	Belgium	Ordinary / preferred	61.1%	Telecoms/ Holding	(4)
Telenet Group NV/SA	Belgium	Ordinary	100.0%	Telecoms	(6)
Telenet Newco 1 BV	Belgium	Ordinary / preferred	100.0%	Telecoms/ Subholding	(4)
Telenet Newco 2 BV	Belgium	Ordinary / preferred	100.0%	Telecoms/ Subholding	(4)
Telenet Retail BV	Belgium	Ordinary	100.0%	Telecoms/ Retail	(4)
Telenet Vlaanderen NV	Belgium	Ordinary / preferred	99.7%	Telecoms	(4)
The Park Entertainment NV	Belgium	Ordinary	80.8%	Telecoms	(4)
Ucast BV	Belgium	Ordinary	100.0%	Telecoms	(3)

Name of subsidiary	Country of incorporation	Holdings	Proportion of shares held by direct owner	Nature of business	Registered address
Woestijnvis NV	Belgium	Ordinary	100.0%	Telecoms	(3)
Liberty Global Ltd.	Bermuda	Ordinary	100.0%	Holding	(27)
Caviar Paris SAS	France	Ordinary	65.0%	Telecoms	(3)
Liberty Global Smart Sourcing GmbH	Germany	Ordinary	100.0%	Holding	(7)
Liberty Global Finanz-Service GmbH	Germany	Ordinary	100.0%	Holding	(7)
Casey Cablevision Limited	Ireland	Ordinary	100.0%	Holding	(9)
Channel 6 Broadcasting Limited	Ireland	Ordinary	100.0%	Telecoms	(9)
Cullen Broadcasting Limited	Ireland	Ordinary	100.0%	Telecoms	(9)
Kish Media Limited	Ireland	Ordinary	100.0%	Telecoms	(9)
P.B.N. Holdings Ltd	Ireland	Ordinary	100.0%	Holding	(9)
Tullamore Beta Limited	Ireland	Ordinary	100.0%	Telecoms	(9)
TVThree Enterprises Limited	Ireland	Ordinary	100.0%	Telecoms	(9)
TVThree Sales Limited	Ireland	Ordinary	100.0%	Telecoms	(9)
Ulana Business Management Ltd	Ireland	Ordinary	100.0%	Finance	(9)
Virgin Media Ireland Limited	Ireland	Ordinary	100.0%	Telecoms	(9)
Virgin Media Television Limited	Ireland	Ordinary	100.0%	Telecoms	(9)
VMIE Group Holdings Limited	Ireland	Ordinary	100.0%	Telecoms	(9)
6320 Canal SA	Luxembourg	Ordinary	70.0%	Telecoms	(10)
Liberty Global Luxembourg Sàrl	Luxembourg	Ordinary	100.0%	Telecoms	(10)
Liberty Property Holdco I Sàrl	Luxembourg	Ordinary	100.0%	Holding	(10)
Telenet Finance Luxembourg Notes Sàrl	Luxembourg	Ordinary	100.0%	Finance	(10)
Telenet International Finance Sàrl	Luxembourg	Ordinary	100.0%	Holding / Finance	(10)
Telenet Luxembourg Finance Center Sàrl	Luxembourg	Ordinary	100.0%	Finance	(10)
Telenet Solutions Luxembourg SA	Luxembourg	Ordinary	100.0%	Telecoms	(10)
Liberty Global Holding Company Limited	Malta	Ordinary	100.0%	Holding	(11)
Liberty Global Insurance Company Limited	Malta	Ordinary	100.0%	Holding	(11)
Binan Investments B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
Labesa Holding B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
LGCI Holdco I BV	Netherlands	Ordinary	100.0%	Holding	(12)
LGI Ventures B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global Communication Services BV	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global Content Investments BV (1)	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global Corporate BV	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global Europe Financing B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global Europe HoldCo 2 B.V.	Netherlands	Ordinary & Preference	100.0%	Holding	(12)
Liberty Global Europe Holding B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global Europe Holding II B.V.	Netherlands	Ordinary & Preference	71.43 % Pref (20% voting)	Holding	(12)
Liberty Global Europe Management B.V.	Netherlands	Ordinary	100.0%	Management company	(12)

Name of subsidiary	Country of incorporation	Holdings	Proportion of shares held by direct owner	Nature of business	Registered address
Liberty Global Holding B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global Switzerland HoldCo BV	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global Technology Services BV	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global Ventures Group Holding BV	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global Ventures Holding BV	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Global Ventures Holding II BV	Netherlands	Ordinary	100.0%	Holding	(12)
Liberty Networks Europe Holding BV	Netherlands	Ordinary	100.0%	Holding	(12)
NewCo I BV	Netherlands	Ordinary	100.0%	Holding	(12)
The Park Entertainment B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
UPC Broadband Finco B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
UPC Broadband Holding B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
UPC Holding B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
UPC Holding II B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
UPC Poland Holding B.V.	Netherlands	Ordinary	100.0%	Holding	(12)
UPC Slovakia Group Holding BV	Netherlands	Ordinary	100.0%	Holding	(12)
UPC Slovakia Holding I BV	Netherlands	Ordinary & Preference	100.0%	Holding	(12)
UPC Slovakia Holding II BV	Netherlands	Ordinary	100.0%	Holding	(12)
UPC Switzerland Holding BV	Netherlands	Ordinary	100.0%	Holding	(12)
UPC Polska Holdco III Sp Zoo	Poland	Ordinary	100.0%	Holding	(14)
Sunrise Portugal S.A.	Portugal	Ordinary	100.0%	Telecoms	(15)
UPC Broadband Slovakia sro	Slovak Republic	no shares (joint-stock) issued	100.0%	Telecoms/ Holding	(16)
ello communications SA	Switzerland	Ordinary/ registered shares	60.0%	Telecoms	(17)
ITV Betriebsgesellschaft GmbH	Switzerland	Ordinary	50.0%	Telecoms	(18)
Sitel SA	Switzerland	Ordinary/ bearer shares	66.7%	Telecoms	(19)
Sunrise GmbH	Switzerland	Ordinary	100.0%	Holding	(20)
Swiss Open Fiber AG	Switzerland	Ordinary	100.0%	Telecoms	(21)
Teledistal SA	Switzerland	Ordinary/ registered shares	58.3%	Telecoms	(22)
Telelavaux SA	Switzerland	Ordinary/ registered shares	80.0%	Telecoms	(23)
Catalyst NewCo 1 Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Caviar London Limited	UK-England & Wales	Ordinary	100.0%	Telecoms	(3)
Global Handset Finco Ltd (1)	UK-England & Wales	Ordinary	100.0%	Mobile Financing	(24)
LGCI Holdings Limited (1)	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Broadband Germany Holding II Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)

Name of subsidiary	Country of incorporation	Holdings	Proportion of shares held by direct owner	Nature of business	Registered address
Liberty Global Broadband Germany Holding Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Broadband Holding Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Broadband I Limited (1)	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Broadband II Limited (1)	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Capital Asset Company Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Capital Limited (1)	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Development Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Europe 2 Limited (1)	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Europe Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Finance I (UK) Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Finance II (UK) Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Financial Services Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Management Services Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Procurement Services Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Property and Financial Services Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global SSC Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Technology Limited (1)	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Ventures Group Limited (1)	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Ventures Holding Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Global Ventures Limited (1)	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Liberty Infrastructure Real Estate HoldCo Limited (1)	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Newco Holdco 6 Limited	UK-England & Wales	Ordinary	100.0%	Holding	(24)
Phoenix Renewables Ltd	UK-England & Wales	Ordinary	100.0%	Holding	(24)
The Park Playground UK Limited	UK-England & Wales	Ordinary	100.0%	Telecoms	(24)
Caviar LA, LLC	USA-California	Ordinary	100.0%	Telecoms	(29)
Gifted Youth, LLC	USA-California	Ordinary	100.0%	Telecoms	(29)
Imposter Inc.	USA-California	Ordinary	100.0%	Telecoms	(30)

Name of subsidiary	Country of incorporation	Holdings	Proportion of shares held by direct owner	Nature of business	Registered address
Learning Depot, LLC	USA-California	Ordinary	100.0%	Telecoms	(29)
Loom, LLC	USA-California	Ordinary	100.0%	Telecoms	(29)
Squirrel Rork Ind., LLC	USA-California	Ordinary	100.0%	Telecoms	(29)
Stay Busy, LLC	USA-California	Ordinary	100.0%	Telecoms	(29)
Vampire Productions, LLC	USA-California	Ordinary	100.0%	Telecoms	(29)
LGI Technology Holdings Inc.	USA-Colorado	Common	100.0%	Holding	(25)
Liberty Global Management, LLC	USA-Colorado	Common	100.0%	Services	(25)
Liberty Global Services, LLC	USA-Colorado	Common	100.0%	Services	(25)
The Rider, LLC	USA-Colorado	Ordinary	63.9%	Telecoms	(3)
UIM Aircraft, LLC	USA-Colorado	Membership interests	100.0%	Partnership	(25)
75 Sunset Films, LLC	USA-Delaware	Ordinary	100.0%	Telecoms	(31)
Associated SMR, Inc.	USA-Delaware	Common	100.0%	Holding	(26)
LGCI HoldCo LP	USA-Delaware	Membership interests	100.0%	Holding	(26)
LGI International LLC	USA-Delaware	Membership interests	100.0%	Holding	(26)
LGI Ventures Management, Inc.	USA-Delaware	Common	100.0%	Holding	(26)
Liberty Global Holdings Inc.	USA-Delaware	Common	100.0%	Holding	(26)
Liberty Global, Inc. (1)	USA-Delaware	Common	100.0%	Holding	(26)
Liberty Programming Japan, LLC	USA-Delaware	Membership interests	100.0%	Holding	(26)
NewCo Financing Partnership	USA-Delaware	Partnership interests	100.0%	Holding	(26)
Roses Are Blue, Inc	USA-Delaware	Ordinary	100.0%	Telecoms	(31)
Telenet Financing USD LLC	USA-Delaware	Membership interests	100.0%	Holding	(26)
The Park Entertainment, Inc.	USA-Delaware	Common	100.0%	Services	(32)
UnitedGlobalCom LLC	USA-Delaware	Membership interests	100.0%	Holding	(26)
UPC Financing Partnership	USA-Delaware	Partnership interests	100.0%	Holding	(26)
VMIE Financing LLC	USA-Delaware	Membership interests	100.0%	Holding	(26)

At December 31, 2022, our joint ventures are as follows:

Name of subsidiary	Country of incorporation	Holdings	Proportion of voting rights and shares held	Nature of business	Registered address
Liberty Networks Germany Holding GmbH	Germany	Ordinary	50.0%	Holding	(8)
AE Group Sàrl	Luxembourg	Ordinary	47.5%	Holding	(33)
VodafoneZiggo Group Holding BV	Netherlands	Ordinary	50.0%	Holding	(13)
DLG Acquisitions Limited	UK-England & Wales	Ordinary	50.0%	Joint Venture	(28)
Opal Holdco Limited	UK-England & Wales	Ordinary	50.0%	Holding	(24)
VMED O2 UK Limited	UK-England & Wales	Ordinary	50.0%	Holding	(24)

---

(1) Subsidiary is a direct subsidiary of Liberty Global plc.

(2) Wolfganggasse 58 - 60, 1120 Vienna, Austria

(3) Harensesteenweg 228, 1800 Vilvoorde, Belgium

(4) Liersesteenweg 4, B-2800, Mechelen, Belgium

(5) Schalienhoevedreef 20C, B-2800 Mechelen, Belgium

(6) Neerveldstraat 105, 1200 Sint Lambrechts Woluwe - Brussels, Belgium

(7) Aachener Strasse 746-750, Cologne, 50933-Germany

(8) Thereisenhohe 30, 80339 Munich, Germany

(9) Building P2, East Point Business Park, Clontarf, Dublin 3, Republic of Ireland

(10) 89F, Rue de Pafebruch, L-8303 Capellen, Luxembourg

(11) Development House, St. Anne Street, Floriana FRN 9010, Malta

(12) Boeing Avenue 53, 1119 PE Schiphol-Rijk, The Netherlands

(13) Atoomweg 100, 3542AB Utrecht, The Netherlands

(14) Al. Jana Pawla II 27, 00-867 Warszawa, Poland

(15) RUA TIERNO GALVAN, TORRE 3 15º 16º 1070-274, LISBOA Portugal

(16) Ševčenkova 36, 851 01 Bratislava, Slovak Republic

(17) Avenue Edouard-Dubois 20, 2000 Neuchâtel, Switzerland

(18) Thurgauerstrasse 101B, 8152 Glattpark (Opfikon)

(19) Rue de Lausanne 53, 1110 Morges, Vaud, Switzerland

(20) Richtiplatz 5, 8304 Wallisellen/ZH, Switzerland

(21) Thurgauerstrasse 101B, 8152 Glattpark (Opfikon), Switzerland

(22) Passage du Lion d'Or, Case Postale 292, 1040 Echallens, Switzerland

(23) Route de Lausanne 2, 1096 Cully, Vaud, Switzerland

(24) Griffin House, 161 Hammersmith Road, London W6 8BS, England

(25) Triangle Building, 1550 Wewatta Street, Suite 1000, Denver, CO 80202, USA

(26) 251 Little Falls Drive, Wilmington, DE 19808, USA

(27) 2 Church Street, Hamilton, HM 11 Bermuda

(28) Berkshire House, 168-173 High Holborn, London WC1V 7AA, England

(29) 6320 W Sunset Blvd, Los Angeles, CA 90028

(30) 1626 N. Wilcox Avenue #508, Hollywood, CA 90028

(31) 3500 S Dupont Hwy, Dover, DE 19901

(32) 1013 Centre Road Suite 403S, Wilmington, DE 19805

(33) 6, Rue Eugene Ruppert, L-2453, Luxembourg

(29) Subsequent Events

Telenet Takeover Bid and Facility Agreement

On March 21, 2023, we announced that, through our wholly-owned subsidiary Liberty Global Belgium Holding B.V. (**LGBH**), we intend to launch a voluntary and conditional public takeover bid for all of the shares of Telenet that we do not already own or that are not held by Telenet.

On April 11, 2023, LGBH entered into a facility agreement (the **Facility Agreement**) under which the lenders have agreed to provide a €1.0 billion ($1.1 billion) term loan facility (**Facility B**) to LGBH, which can be drawn to (i) finance the voluntary and conditional public takeover bid for all of the shares of Telenet that it does not already own or that are not held by Telenet or any other acquisition of shares in Telenet, including pursuant to any squeeze-out procedure or otherwise, (ii) pay any related fees, costs, expenses and taxes (or similar duties or charges) and (iii) repay the principal amount of any subordinated shareholder debt or other equity funding to the extent used to finance the acquisition of shares in Telenet.

Under the terms of the Facility Agreement, the final maturity date for Facility B will be the date falling on the third anniversary of the earlier of (i) the first drawdown under Facility B (the **Closing Date**) and (ii) the date falling nine months after the date of the Facility Agreement. Facility B will bear interest at a rate of EURIBOR plus (a) 4.00% per annum for the first year from the Closing Date, (b) 4.50% per annum for the second year from the Closing Date and (c) 5.25% per annum for the third year from the Closing Date, in each case subject to a EURIBOR floor of 0%.

Vodafone Collar Transaction

On February 13, 2023, we announced that we acquired a 4.92% interest in Vodafone, representing 1,335 million Vodafone shares at an average purchase price of £0.9195 ($1.1151 at the applicable rate) per share. The aggregate purchase price of £1,227.6 million ($1,488.7 million at the applicable rate) was funded with $271.3 million of cash on hand and the remainder through a transaction (the **Vodafone Collar Transaction**). The Vodafone Collar Transaction includes a loan in the amount of $1,217.4 million and a collar on the 1,335 million Vodafone shares. The Vodafone Collar Transaction allows us to realize a potential gain from an increase in the Vodafone share price up to a cap and hedges our potential loss from a decline of Vodafone's share price below a floor. This is accomplished by call options the counterparty can exercise at the cap price and put options we can exercise at the floor price. We will remain subject to changes in the Vodafone share price between the cap and the floor. The Vodafone Collar Transaction does not subject us to margin calls or capital calls, is fully collateralized by the Vodafone shares and is structured such that we will never have a net payment obligation to the counterparty, making the transaction effectively non-recourse to us beyond the Vodafone shares. We will retain a portion of the dividends on the Vodafone shares, which we currently expect to be around 28%, but may vary based on the value of the collar on the ex-dividend date. The Vodafone Collar Transaction has settlement dates from July 2025 to December 2026, contains no financial covenants and provides for customary representations and warranties, events of default and certain adjustment and termination events.

LIBERTY GLOBAL PLC

PARENT COMPANY FINANCIAL STATEMENTS

LIBERTY GLOBAL PLC
STATEMENTS OF FINANCIAL POSITION
December 31, 2022 and 2021
(Parent Company Only)

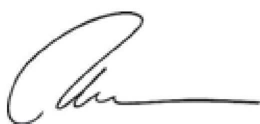
	December 31,	
	2022	2021
	in millions	
Fixed assets:		
Investments — group undertakings (note 3)	$ 50,945.0	$ 50,255.9
Property and equipment, net (note 9)	2.4	3.7
Intangible assets not subject to amortization (note 9)	3.0	3.0
Total fixed assets	50,950.4	50,262.6
Current assets:		
Notes receivable — group undertakings (all due after more than one year) (note 4)	187.7	444.8
Accrued interest receivable — group undertakings (note 4)	2.2	10.7
Other receivables — (including $11.0 million and nil, respectively, due after more than one year) (note 4)	15.8	9.7
Other assets: (all amounts due within one year)	2.0	25.1
Total debtors and other assets	207.7	490.3
Cash and cash equivalents	1.8	1.7
Restricted cash	5.1	5.1
Total current assets (including $187.7 million and $444.8 million, respectively, due after more than one year)	214.6	497.1
Total assets	51,165.0	50,759.7
Creditors: amounts falling due within one year (current liabilities):		
Note payable — group undertakings (note 4)	12,435.3	11,281.7
Trade creditors	1.1	1.1
Other accrued and current liabilities:		
Group undertakings (note 4)	1,273.1	1,045.5
Third-party	42.4	19.7
Total creditors: amounts falling due within one year (current liabilities)	13,751.9	12,348.0
Net current liabilities	(13,537.3)	(11,850.9)
Total assets less current liabilities	37,413.1	38,411.7
Creditors: amounts falling due after one year:		
Notes payable — group undertakings (note 4)	15,540.3	15,253.6
Other non-current liabilities:		
Third-party	2.5	3.9
Total creditors: amounts falling due after one year	15,542.8	15,257.5
Total liabilities	29,294.7	27,605.5
Net assets	$ 21,870.3	$ 23,154.2

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

LIBERTY GLOBAL PLC
STATEMENTS OF FINANCIAL POSITION — (Continued)
December 31, 2022 and 2021
(Parent Company Only)

	December 31,	
	2022	2021
	in millions	
Capital and reserves (note 6):		
Called up share capital (note 5)	$ 4.6	$ 5.3
Share premium reserve	1,149.4	1,136.3
Merger reserve	4,749.3	4,749.3
Capital redemption reserve	5.9	5.2
Other reserves	131.7	131.7
Profit and loss account	15,829.5	17,126.5
Treasury shares, at cost	(0.1)	(0.1)
Shareholders' funds	$ 21,870.3	$ 23,154.2

The financial statements were approved by our board of directors and were signed on its behalf on April 28, 2023 by:



Michael T. Fries
President, Chief Executive Officer and Director
Company registered number: **8379990**

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

LIBERTY GLOBAL PLC
STATEMENTS OF CHANGES IN EQUITY
December 31, 2022 and 2021
(Parent Company Only)

	Called up share capital	Share premium reserve	Merger reserve	Capital redemption reserve	Other reserves	Profit and loss account	Treasury shares, at cost	Shareholders' funds
				in millions				
Balance at January 1, 2021	$ 5.8	$ 1,127.0	$ 4,749.3	$ 4.6	$ 131.7	$ 14,889.9	$ (0.1)	$ 20,908.2
Profit for the financial period	—	—	—	—	—	3,618.5	—	3,618.5
Repurchases and cancellations of our shares	(0.5)	—	—	0.6	—	(1,581.1)	—	(1,581.0)
Share-based compensation	—	9.3	—	—	—	199.2	—	208.5
Balance at December 31, 2021	5.3	1,136.3	4,749.3	5.2	131.7	17,126.5	(0.1)	23,154.2
Profit for the financial period	—	—	—	—	—	285.7	—	285.7
Repurchases and cancellations of our shares	(0.7)	—	—	0.7	—	(1,702.7)	—	(1,702.7)
Share-based compensation	—	12.2	—	—	—	120.0	—	132.2
Other	—	0.9	—	—	—	—	—	0.9
Balance at December 31, 2022	$ 4.6	$ 1,149.4	$ 4,749.3	$ 5.9	$ 131.7	$ 15,829.5	$ (0.1)	$ 21,870.3

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

(1) Basis of Presentation

Liberty Global plc (**Liberty Global**) is a public limited company organized under the laws of England and Wales. In these notes, the terms "we," "our," "our company" and "us" refer to Liberty Global. Liberty Global is an international converged fixed and mobile communications company, providing broadband internet, video, fixed-line telephony and mobile services to residential and businesses customers in Europe.

These financial statements have been prepared in accordance with Financial Reporting Standard 101, *Reduced Disclosure Framework* (**FRS 101**). In preparing these financial statements, we apply the recognition, measurement and disclosure requirements of international accounting standards in conformity with the requirements of the Companies Act 2006, but make amendments where necessary in order to comply with the Companies Act 2006 and have set out below where advantage of the FRS 101 disclosure exemptions has been taken.

In these financial statements, the company has applied the exemptions available under FRS 101 in respect of the following disclosures:

- Cash Flow Statement and related notes;
- Comparative period reconciliations for share capital, tangible fixed assets and intangible assets;
- Disclosures in respect of transactions with wholly owned subsidiaries;
- Disclosures in respect of capital management;
- The effects of new but not yet effective International Financial Reporting Standards (IFRS);
- Disclosures in respect of the compensation of key management personnel; and
- Disclosures of transactions with a management entity that provides key management personnel services to the company.

The capitalized terms used throughout this annual report are defined in the notes to the consolidated financial statements for year ended December 31, 2022 included elsewhere in this annual report (the **Consolidated Financial Statements**). As the Consolidated Financial Statements include the equivalent disclosures, the Company has also taken the exemptions under FRS 101 available in respect of the following disclosures:

- IFRS 2, *Share Based Payments,* in respect of group settled share-based payments.

These accounts present information about Liberty Global as an individual undertaking and not about its consolidated group. Under section 408 of the Companies Act 2006, we are exempt from the requirement to present our own profit and loss account.

Unless otherwise indicated, translations into U.S. dollars are calculated as of December 31, 2022.

(2) Summary of Significant Accounting Policies

The accounting policies set forth below have, unless otherwise stated, been applied consistently to all periods presented in these financial statements.

Foreign Currency

Our presentation and functional currency is the U.S. dollar.

Estimates

See note 3 to the Consolidated Financial Statements for significant estimates and judgments which are reflected in our investments in subsidiaries. No additional significant estimates or judgments have been identified for the Company.

Going Concern

See note 3 to the Consolidated Financial Statements for information regarding our going concern evaluation.

Share Issues

Share issues are recorded at fair value of the net proceeds.

Investments

Investments in subsidiary undertakings are stated at cost. Where investments are acquired in exchange for a share issue we record the investment at fair value of the underlying share capital on the transaction date. For further information regarding our investments, see note 3.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation.

Depreciation is computed using the straight-line method over the estimated useful life of the underlying asset. Useful lives used to depreciate our property and equipment are assessed periodically and are adjusted when warranted. For additional information regarding the useful lives of our property and equipment, see note 9.

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

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 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 non-current asset or asset group, (ii) adverse changes in market or competitive conditions, (iii) an adverse change in legal factors or business climate in the markets in which we operate and (iv) operating or cash flow losses. For purposes of impairment testing, non-current 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. 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 carried at the lower of their carrying amount or fair value less costs to sell.

Interest-bearing Borrowings

Debt is stated at the fair value of the consideration received on the issue of the capital instrument after deduction of issue costs. The finance cost of the debt is amortized over the term of the debt at a constant rate on the carrying amount.

Share-Based Compensation

We recognize all share-based payments to employees, including grants of employee share-based incentive awards, based on their grant-date fair values and our estimates of forfeitures. We recognize the grant-date fair value of outstanding awards as a charge to operations over the vesting period.

The grant date fair values for options, SARs and PSARs are estimated using the Black-Scholes option pricing model, and the grant date fair values for RSUs, RSAs and PSUs are based upon the closing share price of Liberty Global ordinary shares on the date of grant. We consider historical exercise trends in our calculation of the expected life of options and SARs granted by Liberty Global to employees. The expected volatility for options and SARs related to our ordinary shares is generally based on a combination of (i) historical volatilities for a period equal to the expected average life of the awards and (ii) volatilities implied from publicly- traded options for our shares.

Where we grant options over our own shares to the employees of our subsidiaries we recognize an increase in the cost of investment in our subsidiaries equivalent to the equity-settled share-based payment charge recognized in our subsidiary's financial statements with the corresponding credit being recognized directly in equity. Amounts recharged to and reimbursed by the subsidiary are recognized as a reduction in the cost of investment in subsidiary. If the cumulative amount recharged and reimbursed exceeds the increase in the cost of investment the excess is recognized as a dividend.

We generally issue new Liberty Global ordinary shares when Liberty Global options or SARs are exercised, when RSUs and PSUs vest and when RSAs are granted. Although we repurchase Liberty Global ordinary shares from time to time, the parameters of our share purchase and redemption activities are not established with reference to the dilutive impact of our share-based compensation plans.

Income Taxes

The charge for taxation is based on the profit or loss for the period and takes into account deferred taxation related to temporary differences between the treatment of certain items for taxation and accounting purposes.

Deferred tax is measured on an undiscounted basis at the tax rates that are expected to apply in the periods in which differences reverse, based on tax rates and laws enacted or substantively enacted at the statement of financial position date.

Deferred tax assets are recognized only to the extent that the directors consider it more likely than not that there will be suitable taxable profits from which the future reversal of the underlying temporary differences can be deducted.

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 statements of financial position related to these non-functional currency transactions result in transaction gains or losses that are reflected in our profit and loss accounts as unrealized (based on the applicable period end exchange rates) or realized upon settlement of the transactions.

(3) Investments in Group Undertakings

The details of our investment in group undertakings during 2022 and 2021 are set forth below (in millions):

Balance at January 1, 2021	$ 45,525.3
Additions, other than share-based compensation (a)	4,777.3
Amounts related to share-based compensation (b)	(46.7)
Balance at December 31, 2021	50,255.9
Additions, other than share-based compensation	584.1
Amounts related to share-based compensation (b)	105.0
Balance at December 31, 2022	$ 50,945.0

(a) This amount primarily represents an investment made by our company in Liberty Global Broadband I Ltd in exchange for two ordinary shares of Liberty Global Broadband I Ltd.

(b) Represents additions attributable to share-based compensation associated with employees of our subsidiaries, less amounts that we recharge to our subsidiaries in connection with the exercise of our SARs and options and the vesting of our restricted share awards held by employees of our subsidiaries, as adjusted to reflect any deemed dividends arising from amounts charged in excess of the allocated share-based compensation with respect to certain of our subsidiaries.

Subsidiaries

For a listing of our subsidiaries at December 31, 2022, see note 28 to the Consolidated Financial Statements.

(4) Transactions with Group Undertakings

The following table provides details of our group undertaking balances:

	December 31, 2022	December 31, 2021
	in millions	
Notes receivable:		
LG Ventures (a)	$ 151.7	$ 407.5
LGCI Holdings (b)	36.0	37.3
Total notes receivable	187.7	444.8
Interest receivable (c)	2.2	10.7
Other receivables (d)	15.8	9.7
Total	$ 205.7	$ 465.2
Non-current notes payable:		
LG Broadband Germany Holding II (e)	$ 7,517.1	$ 7,261.6
LG Broadband Holding (f)	4,398.6	4,305.1
LG Broadband Germany Holding (g)	3,508.9	3,529.6
LG Technology (h)	46.2	98.3
LG Ventures Group	69.5	59.0
Total non-current notes payable	15,540.3	15,253.6
Current notes payable:		
LG Europe 2 (i)	12,294.1	10,377.0
LG Broadband I (j)	141.2	904.7
Total current notes payable	12,435.3	11,281.7
Other accrued and current liabilities (k)	1,273.1	1,045.5
Total	$ 29,248.7	$ 27,580.8

(a) Represents a note receivable from Liberty Global Ventures Limited (**LG Ventures**). Pursuant to the loan agreement the maturity date is November 30, 2026, however Liberty Global may agree to advance additional amounts to LG Ventures at any time and LG Ventures may, with agreement from Liberty Global, repay all or part of the outstanding principal at any time prior to the maturity date. The note receivable is subject to further borrowings and repayments. The interest rate on this loan, which is subject to adjustment, was 7.02% as of December 31, 2022.

(b) Represents a euro denominated note receivable from LGCI Holdings Limited (**LGCI Holdings**). Pursuant to the loan agreement the maturity date is March 9, 2024, however Liberty Global may agree to advance additional amounts to LGCI Holdings at any time and LGCI Holdings may, with agreement from Liberty Global, repay all or part of the outstanding principal at any time prior to the maturity date. The note receivable is subject to further borrowings and repayments. The interest rate on this loan, which is subject to adjustment, was 5.16% as of December 31, 2022.

(c) Represents interest related to our various notes receivable as discussed above.

(d) Represents certain receivables from other Liberty Global subsidiaries generally arising in the normal course of business.

(e) Represents a note payable to Liberty Global Broadband Germany Holding II Limited (**LG Broadband Germany Holding II**). Pursuant to the loan agreement the maturity date is April 1, 2025, however LG Broadband Germany Holding II may agree to advance additional amounts to our company at any time and our company may, with agreement from LG Broadband Germany Holding II, repay all or part of the outstanding principal at any time prior to the maturity

date. The note payable is subject to further borrowings and repayments. The interest rate on this loan, which is subject to adjustment, was 3.47% as of December 31, 2022.

(f) Represents a note payable to Liberty Global Broadband Holding Limited (**LG Broadband Holding**). Pursuant to the loan agreement the maturity date is April 1, 2025, however LG Broadband Holding may agree to advance additional amounts to our company at any time and our company may, with agreement from LG Broadband Holding, repay all or part of the outstanding principal at any time prior to the maturity date. The note payable is subject to further borrowings and repayments. The interest rate on this loan, which is subject to adjustment, was 3.47% as of December 31, 2022.

(g) Represents a euro denominated note payable to Liberty Global Broadband Germany Holding Limited (**LG Broadband Germany Holding**). Pursuant to the loan agreement the maturity date is December 28, 2028, however LG Broadband Germany Holding may agree to advance additional amounts to our company at any time and our company may, with agreement from LG Broadband Germany Holding, repay all or part of the outstanding principal at any time prior to the maturity date. The note payable is subject to further borrowings and repayments. The interest rate on this loan, which is subject to adjustment, was 5.61% as of December 31, 2022.

(h) Represents a loan payable pursuant to a loan agreement with Liberty Global Technology Limited (**LG Technology**). This loan agreement matures on May 21, 2030, however Liberty Global may agree to advance additional amounts to LG Technology at any time and LG Technology may, with agreement from Liberty Global, repay all or part of the outstanding principal at any time prior to the maturity date. The note is subject to further borrowings and repayments. The interest rate on this loan, which is subject to adjustment, was 7.01% as of December 31, 2022.

(i) Represents a revolving credit facility with Liberty Global Europe 2 Limited (**LG Europe 2**). Pursuant to the loan agreement the maturity date is July 16, 2023, however LG Europe 2 may agree to advance additional amounts to our company at any time and our company may, with agreement from LG Europe 2, repay all or part of the outstanding principal at any time prior to the maturity date. The interest rate on this credit facility, which is subject to adjustment, was 5.68% as of December 31, 2022.

(j) Represent a revolving credit facility with Liberty Global Broadband Limited (**LG Broadband I**). Pursuant to the loan agreement the maturity date is April 23, 2023, however, LG Broadband I may agree to advance additional amounts to our company at any time and our company may, with agreement from LG Broadband I, repay all or part of the outstanding principal at any time prior to the maturity date. The interest rate on this credit facility, which is subject to adjustment, was 2.89% as of December 31, 2022.

(k) Represents certain payables to other Liberty Global subsidiaries generally arising in the normal course of business.

(5) Called Up Share Capital

Our share capital comprises the following at December 31, 2022:

	Shares	Amount in millions
Allotted, called up and fully paid Liberty Global Shares:		
Class A of $0.01 each	171,917,370	$ 1.8
Class B of $0.01 each	12,994,000	0.1
Class C of $0.01 each	274,436,585	2.7
Total share capital		$ 4.6

The details of our share activity during 2022 are set forth below:

	Class A of $0.01 each	Class B of $0.01 each	Class C of $0.01 each	Total Shares
Balance at January 1, 2022	174,310,558	12,930,839	340,114,729	527,356,126
Additional issuances	1,445,438	63,161	3,632,453	5,141,052
Repurchases	(3,856,700)	—	(69,381,968)	(73,238,668)
Other	18,074	—	71,371	89,445
Balance at December 31, 2022	171,917,370	12,994,000	274,436,585	459,347,955

For additional information regarding our share repurchases, see note 13 to the Consolidated Financial Statements.

(6) Reserves

Our called up share capital and reserves comprise the following at December 31, 2022 and 2021:

	Called up share capital	Share premium reserve	Merger reserve	Capital redemption reserve	Other reserves	Profit and loss account	Treasury shares, at cost	Shareholders' funds
				in millions				
Balance at January 1, 2021	$ 5.8	$ 1,127.0	$ 4,749.3	$ 4.6	$ 131.7	$ 14,889.9	$ (0.1)	$ 20,908.2
Profit for the financial period	—	—	—	—	—	3,618.5	—	3,618.5
Repurchases and cancellations of our shares	(0.5)	—	—	0.6	—	(1,581.1)	—	(1,581.0)
Share-based compensation	—	9.3	—	—	—	199.2	—	208.5
Balance at December 31, 2021	5.3	1,136.3	4,749.3	5.2	131.7	17,126.5	(0.1)	23,154.2
Profit for the financial period	—	—	—	—	—	285.7	—	285.7
Repurchases and cancellations of our shares	(0.7)	—	—	0.7	—	(1,702.7)	—	(1,702.7)
Share-based compensation	—	12.2	—	—	—	120.0	—	132.2
Other	—	0.9	—	—	—	—	—	0.9
Balance at December 31, 2022	$ 4.6	$ 1,149.4	$ 4,749.3	$ 5.9	$ 131.7	$ 15,829.5	$ (0.1)	$ 21,870.3

Share Repurchases

Our board of directors has approved various share repurchase programs for our Liberty Global ordinary shares. Under our repurchase programs, we may acquire from time to time our Class A ordinary shares, Class C ordinary shares or any combination of Class A and Class C ordinary shares. Our repurchase programs may be effected through open market transactions and/or privately negotiated transactions, which may include derivative transactions. The timing of the repurchase of shares pursuant to these programs will depend on a variety of factors, including market conditions and applicable law, and these programs may be implemented in conjunction with brokers for the company and other financial institutions with whom the company has relationships within certain preset parameters and purchases may continue during closed periods in accordance with applicable restrictions. Our share repurchase programs may be suspended or discontinued at any time. In July 2021, our board of directors approved a share repurchase program pursuant to which we are authorized to repurchase 10% of our shares during each of 2022 and 2023, based on the total number of our outstanding shares as of the beginning of each respective year. As determined by our total number of outstanding shares as of December 31, 2022, we are authorized to repurchase approximately 45.9 million of our Class A and/or Class C ordinary shares during 2023. Based on the respective closing share prices as of December 30, 2022, this would equate to total share repurchases during 2023 of approximately $0.9 billion. However, the actual U.S. dollar amount of our share repurchases during 2023 will be determined by the actual transaction date share prices during the year and could differ significantly from this amount.

The following table provides details of our share repurchases during 2022 and 2021:

	Class A ordinary shares		Class C ordinary shares		
	Shares repurchased	Average price paid per share (a)	Shares repurchased	Average price paid per share (a)	Total cost (a)
					in millions
Liberty Global Shares:					
2022	3,856,700	$ 21.55	69,381,968	$ 23.34	$ 1,702.6
2021	8,445,800	$ 27.31	49,604,048	$ 27.23	$ 1,581.1

(a) Includes direct acquisition costs, where applicable.

(7) Debtors and Other Assets

Debtors and other assets consist of the following:

	December 31, 2022	December 31, 2021
	in millions	
Amounts owed by group undertakings:		
Notes receivable (note 4)	$ 187.7	$ 444.8
Interest and other receivables (note 4)	18.0	20.4
Total amounts owed by group undertakings	205.7	465.2
Other assets: amounts recoverable in less than one year	2.0	25.1
Total debtors and other assets (a)	$ 207.7	$ 490.3

(a) At December 31, 2022 and 2021, $187.7 million and $444.8 million, respectively, are due after more than one year. For further information, see note 4.

(8) Creditors

Creditors consists of the following:

	December 31,	
	2022	2021
	in millions	
Amounts falling due within one year:		
Note payable — group undertakings (note 4)	$ 12,435.3	$ 11,281.7
Other accrued and current liabilities — group undertakings (note 4)	1,273.1	1,045.5
Other accrued and current liabilities — third-party	42.4	19.7
Trade creditors	1.1	1.1
Total creditors — amounts falling due within one year	$ 13,751.9	$ 12,348.0
Amounts falling due after one year:		
Notes payable — group undertakings (note 4)	$ 15,540.3	$ 15,253.6
Other non-current liabilities — third-party	2.5	3.9
Total creditors — amounts falling due after one year	$ 15,542.8	$ 15,257.5

(9) Non-Current Assets

Property and Equipment, Net

Changes in our property and equipment and the related accumulated depreciation are set forth below (in millions):

Cost:	
January 1, 2022	$ 11.1
Additions	—
December 31, 2022	$ 11.1
Accumulated depreciation:	
January 1, 2022	$ (7.4)
Depreciation	(1.3)
December 31, 2022	$ (8.7)
Property and equipment, net:	
December 31, 2022	$ 2.4

(a) The estimated useful lives at December 31, 2022 range from 3 to 10 years.

Other Indefinite-lived Intangible Assets

Our intangible assets relate to our domain names. These intangible assets are considered to have indefinite lives and had an aggregate carrying value of $3.0 million at each of December 31, 2022 and 2021.

(10) Directors' Remuneration

Information regarding directors' compensation (remuneration), interests in shares and share options for consolidated Liberty Global is included within the *Directors' Remuneration Report* contained elsewhere in this annual report.