UNITED STATES SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
Form 10-K/A
(Amendment No. 1)

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2022

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number 001-35961

Liberty Global plc
(Exact name of Registrant as specified in its charter)

England and Wales	**98-1112770**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
Griffin House **161 Hammersmith Rd** **London** **United Kingdom**	**W6 8BS**
(Address of principal executive offices)	*(Zip Code)*

Registrant's telephone number, including area code: +44.208.483.6449 or 303.220.6600

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A ordinary shares	LBTYA	Nasdaq Global Select Market
Class B ordinary shares	LBTYB	Nasdaq Global Select Market
Class C ordinary shares	LBTYK	Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act: none

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months. Yes ☑ No ☐

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or emerging growth company. See definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. Check one:

Large Accelerated Filer ☑ Accelerated Filer ☐ Non-Accelerated Filer ☐ Smaller Reporting Company ☐ Emerging Growth Company ☐

If an emerging growth company, indicate by check mark if the Registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☑

State the aggregate market value of the voting and non-voting common equity held by non-affiliates, computed by reference to the price at which the common equity was last sold, or the average bid and ask price of such common equity, as of the last business day of the Registrant's most recently completed second fiscal quarter: $9.7 billion.

The number of outstanding ordinary shares of Liberty Global plc as of January 31, 2023 was: 171,931,486 shares of class A ordinary shares, 12,994,000 shares of class B ordinary shares and 271,214,310 shares of class C ordinary shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement for the Registrant's 2023 Annual General Meeting of Shareholders are incorporated by reference in Part III of this Form 10-K.

EXPLANATORY NOTE

On February 22, 2023, Liberty Global plc (the Registrant) filed with the Securities and Exchange Commission its Annual Report on Form 10-K (the Form 10-K) for the year ended December 31, 2022. The Registrant’s independent registered public accounting firm is KPMG LLP, Denver, CO, Auditor Firm ID: 185.

The Registrant is filing this Amendment No. 1 on Form 10-K/A (the Form 10-K/A) to include under Item 15 the consolidated financial statements of its equity investees VMED O2 UK Limited and VodafoneZiggo Group Holding B.V., as required by Rule 3-09 of Regulation S-X. Accordingly, the Registrant hereby amends and replaces in its entirety Item 15 of its Form 10-K.

Except as described above, this Form 10-K/A does not update or modify in any way the disclosures provided in the Registrant's Form 10-K, and does not purport to reflect any information or events subsequent to the February 22, 2023 filing thereof.

PART IV

Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) (1) FINANCIAL STATEMENTS

The financial statements required under this Item begin on page II-42 of this Annual Report on Form 10-K.

(a) (2) FINANCIAL STATEMENT SCHEDULES

The financial statement schedules required under this Item are as follows:

Schedule I - Condensed Financial Information of Registrant (Parent Company Information):	
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(a) (3) EXHIBITS

Listed below are the exhibits filed as part of this Annual Report on Form 10-K (according to the number assigned to them in Item 601 of Regulation S-K):

2 -- Plan of Acquisition, Reorganization, Arrangement, Liquidation or Succession:	
2.1	Amended Sale and Purchase Agreement, dated as of May 9, 2018, as amended, by and among Liberty Global plc and Vodafone Group plc and certain of their respective subsidiaries (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed August 5, 2019 (File No. 001-35961)).***
2.2	Contribution Agreement, dated May 7, 2020, by and among Liberty Global plc, Liberty Global Europe 2 Limited, Liberty Global Holdco Limited, Telefónica, S.A., and Telefonica O2 Holdings Limited (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed May 13, 2020 (File No. 001-35961)).***

2.3 Transaction Agreement, dated as of August 12, 2020 between Liberty Global plc and Sunrise Communications Group AG (incorporated by reference to Exhibit 2.1 to the Registrant's Quarterly Report on Form 10-Q filed November 4, 2020 (File No. 001-35961)).

2.4 Sale and Purchase Agreement, dated as of September 22, 2021, by and among Liberty Global plc , UPC Poland Holding B.V., P4 sp.z o.o. and Iliad S.A. (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed September 23, 2021 (File No. 001-35961)).***

3 -- Articles of Incorporation and Bylaws:

3.1 Articles of Association of Liberty Global plc, effective as of July 1, 2015 (incorporated by reference to Exhibit 3.1 to the Registrant's Registration Statement on Form 8-A filed June 19, 2015 (File No. 001-35961)).

4 -- Instruments Defining the Rights of Securities Holders, including Indentures:

4.1 Description of the Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934 (incorporated by reference to Exhibit 4.1 to the Registrant's Annual Report on Form 10-K filed February 13, 2020 (File No. 001-35961)).

4.2 Amended Credit Agreement to Senior Secured Credit Facility Agreement originally dated January 16, 2004, dated November 29, 2017, among UPC Broadband Holding B.V. (UPC Broadband Holding) as Borrower, The Bank of Nova Scotia, as Facility Agent, the Guarantors listed therein, the Security Agent and the bank and financial institutions acceding thereto from time to time (the UPC Broadband Holding Bank Facility) (incorporated by reference to Schedule 2 of Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed December 5, 2017 (File No. 001-35961)(the December 2017 8-K)).

4.3 Supplemental Deed dated November 29, 2017, between UPC Broadband Holding, as Obligor, and the Bank of Nova Scotia, as Facility Agent and Security Agent, which is supplemental to and amends the UPC Broadband Holding Bank Facility (incorporated by reference to Exhibit 4.1 to the December 2017 8-K).

4.4 Indenture dated April 15, 2015, among UPCB Finance IV Limited, The Bank of New York Mellon, London Branch as Trustee, Principal Paying Agent, Transfer Agent and Security Agent, The Bank of New York Mellon as New York Paying Agent, New York Transfer Agent and Dollar Notes Registrar and The Bank of New York Mellon (Luxembourg) S.A. as Euro Notes Registrar and Transfer Agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K/A filed April 21, 2015 (File No. 001-35961) (the April 2015 8-K/A)).

4.5 Additional Facility AK Accession Agreement, dated April 15, 2015, among UPC Financing Partnership (UPC Financing) as Borrower, The Bank of Nova Scotia as Facility Agent and Security Agent, UPC Broadband Holding and UPCB Finance IV Limited as Additional Facility AK Lender, under the UPC Broadband Holding Bank Facility (incorporated by reference to Exhibit 4.2 to the April 2015 8-K/A).

4.6 Additional Facility AL Accession Agreement, dated April 15, 2015, among UPC Financing as Borrower, The Bank of Nova Scotia as Facility Agent and Security Agent, UPC Broadband Holding and UPCB Finance IV Limited as Additional Facility AL Lender, under the UPC Broadband Holding Bank Facility (incorporated by reference to Exhibit 4.3 to the April 2015 8-K/A).

4.7 Additional Facility AL2 Accession Agreement, dated May 20, 2015, among UPC Financing as Borrower, The Bank of New York Nova Scotia as Facility Agent and Security Agent, UPC Broadband Holding and UPCB Finance IV Limited as Additional Facility AL2 Lender, under the UPC Broadband Holding Bank Facility (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K/A filed May 21, 2015 (File No. 001-35961)).

4.8 Additional Facility AM Accession Agreement, dated August 3, 2015, among UPC Financing as Borrower, The Bank of Nova Scotia as Facility Agent and Security Agent and the financial institutions listed therein as Additional Facility AM Lenders, under the UPC Broadband Holding Bank Facility (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed August 6, 2015 (File No. 001-35961)).

4.9 Additional Facility AQ Accession Agreement dated June 21, 2017 and entered into between, among others, UPC Financing and UPC Broadband Holding as borrowers and The Bank of Nova Scotia as Facility Agent and Security Agent and the financial institutions listed therein as Additional Facility AQ Lenders under the UPC Broadband Holding Bank Facility (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed June 27, 2017 (File No. 001-35961)).

4.10 Additional Facility AT Accession Agreement dated January 31, 2020 and entered into between, among others, UPC Financing Partnership as the Borrower and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed February 6, 2020 (File No. 001-35961) (the February 6, 2020 8-K).

4.11 Additional Facility AU Accession Agreement dated January 31, 2020 and entered into between, among others, UPC Broadband Holding B.V. as the Borrower and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.2 to the February 6, 2020 8-K).

4.12 Additional Facility AV Accession Agreement dated August 20, 2020 and entered into between, among others, UPC Financing Partnership as the Borrower and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed August 26, 2020 (File No. 001-35961) (the August 26, 2020 8-K)).

4.13	Additional Facility AW Accession Agreement dated August 20, 2020 and entered into between, among others, UPC Broadband Holding B.V. as the Borrower and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.2 to the August 26, 2020 8-K).
4.14	Additional Facility AN Accession Agreement dated May 24, 2018 and entered into between, among others, Telenet Financing USD LLC as the Borrower, Telenet BVBA as a Guarantor and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed May 31, 2018 (File No. 001-35961)(the May 2018 8-K)).
4.15	Additional Facility AR Accession Agreement dated January 24, 2020 and entered into between, among others, Telenet Financing USD LLC as the Borrower, Telenet BVBA as a Guarantor and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed January 30, 2020 (File No. 001-35961) (the January 30, 2020 8-K)).
4.16	Additional Facility AQ Accession Agreement dated January 24, 2020 and entered into between, among others, Telenet International Finance S.à r.l. as the Borrower, Telenet BVBA as a Guarantor and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.2 to the January 30, 2020 8-K).
4.17	Additional Facility AP Accession Agreement dated May 24, 2019 and entered into between, among others, Telenet International Finance S.à.r.l. as the Borrower, the Guarantors listed therein and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed May 30, 3019 (File No. 001-35961)).
4.18	Indenture dated December 13, 2017 between Telenet Finance Luxembourg Notes S.a.r.l., The Bank of New York Mellon, London Branch, as Trustee and Security Trustee and The Bank of New York Mellon SA/NV, Luxembourg Branch, as Transfer Agent and Registrar (incorporated by reference to Exhibit 4.4 to the Registrant's Current Report on Form 8-K filed December 18, 2017 (File No. 000.35961)(the December 2017 8-K/A)).
4.19	Additional Facility AJ Accession Agreement dated December 13, 2017 and entered into between, among others, Telenet International Finance S.a.r.l. as the Borrower, Telenet Financing USD LLC as a Guarantor, The Bank of Nova Scotia as Facility Agent and KBC Bank NV as Security Agent (incorporated by reference to Exhibit 4.5 to the December 2017 8-K/A).
4.20	Additional Facility AK Accession Agreement dated December 13, 2017 and entered into between, among others, Telenet International Finance S.a.r.l. as the Borrower, Telenet Financing USD LLC as a Guarantor, The Bank of Nova Scotia as Facility Agent and KBC Bank NV as Security Agent (incorporated by reference to Exhibit 4.6 to the December 2017 8-K/A).
4.21	Telenet Supplemental Agreement (Credit Agreement) dated November 16, 2018 between among others, Telenet BVBA as the company, The Bank of Nova Scotia as facility agent and KBC Bank NV as security agent (incorporated by reference to Exhibit 4.1 to the November 2018 8-K).
4.22	Indenture dated March 28, 2014 between Virgin Media Secured Finance PLC, The Bank of New York Mellon, London Branch, as Trustee, Transfer Agent and Principal Paying Agent, The Bank of New York Mellon as Paying Agent, and The Bank of New York Mellon (Luxembourg) S.A., as Registrar (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K/A filed April 3, 2014 (File No. 001-35961)).
4.23	Indenture dated January 28, 2015 between Virgin Media Finance PLC, The Bank of New York Mellon, London Branch, as Trustee and Principal Paying Agent, The Bank of Mellon as Paying Agent and Dollar Notes Transfer Agent and Registrar and The Bank of New York Mellon (Luxembourg) S.A., as Euro Notes Registrar and Transfer Agent (incorporated by reference to Exhibit 4.2 to the February 2015 8-K/A).
4.24	Additional L Facility Accession Deed dated November 10, 2017, between Virgin Media Investment Holdings Limited as the Company, Virgin Media SFA Finance Limited as the Borrower, The Bank of Nova Scotia as the Facility Agent and The Bank of Nova Scotia as Additional L Facility Lender under the VMF Senior Facilities Agreement (incorporated by reference to Exhibit 4.2 to the November 2017 8-K).
4.25	Additional M Facility Accession Deed dated November 10, 2017, between Virgin Media Investment Holdings Limited as the Company, Virgin Media SFA Finance Limited as the Borrower, The Bank of Nova Scotia as the Facility Agent and The Bank of Nova Scotia as Additional M Facility Lender under the VMF Senior Facilities Agreement (incorporated by reference to Exhibit 4.3 to the November 2017 8-K).
4.26	Additional N Facility Accession Deed dated October 4, 2019, between Virgin Media Investment Holdings Limited as the Company, Virgin Media Bristol LLC as the Borrower, The Bank of Nova Scotia as the Facility Agent and The Bank of Nova Scotia as Additional N Facility Lender (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed October 10, 2019 (File No. 001-35961) (the October 10, 2019 8-K)).
4.27	Additional O Facility Accession Deed dated October 4, 2019, between Virgin Media Investment Holdings Limited as the Company, Virgin Media SFA Finance Limited as the Facility O Borrower, The Bank of Nova Scotia as the Facility Agent and The Bank of Nova Scotia as Additional O Facility Lender (incorporated by reference to Exhibit 4.2 to the October 10, 2019 8-K).
4.28	Facility P Accession Deed dated December 7, 2020 and entered into between Virgin Media Investment Holdings Limited as the Company, VMED O2 UK Holdco 4 Limited as Borrower, The Bank of Nova Scotia as the Facility Agent and the Additional Facility P Lenders (as defined therein) (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed December 11, 2020 (File No. 001-35961)).

4.29	Additional Facility Q Accession Deed dated September 11, 2020 and entered into between Virgin Media Investment Holdings Limited as the Company, Virgin Media Bristol LLC as Borrower, The Bank of Nova Scotia as the Facility Agent and the Additional Facility Q Lenders (as defined therein) (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed September 16, 2020 (the September 16, 2020 8-K)).
4.30	Additional Facility R Accession Deed dated September 11, 2020 and entered into between Virgin Media Investment Holdings Limited as the Company, VMED O2 UK Holdco 4 Limited as Borrower, The Bank of Nova Scotia as the Facility Agent and the Additional Facility R Lenders (as defined therein) (incorporated by reference to Exhibit 4.2 to the September 16, 2020 8-K).
4.31	Additional Facility S Accession Deed dated September 24, 2020 and entered into between Virgin Media Investment Holdings Limited as the Company, VMED O2 UK Holdco 4 Limited as Borrower, The Bank of Nova Scotia as the Facility Agent and VMED O2 UK Financing I plc as the Additional Facility S Lender (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed September 30, 2020 (the September 30, 2020 8-K)).
4.32	Additional Facility T Accession Deed dated September 24, 2020 and entered into between Virgin Media Investment Holdings Limited as the Company, VMED O2 UK Holdco 4 Limited as Borrower, The Bank of Nova Scotia as the Facility Agent and VMED O2 UK Financing I plc as the Additional Facility T Lender (incorporated by reference to Exhibit 4.2 to the September 30, 2020 8-K).
4.33	Additional Facility U Accession Deed dated September 24, 2020 and entered into between Virgin Media Investment Holdings Limited as the Company, VMED O2 UK Holdco 4 Limited as Borrower, The Bank of Nova Scotia as the Facility Agent and VMED O2 UK Financing I plc as the Additional Facility U Lender (incorporated by reference to Exhibit 4.3 to the September 30, 2020 8-K).
4.34	Additional Facility AV2 Accession Agreement dated April 12, 2021 and entered into between, among others, UPC Financing Partnership as the Borrower and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed April 16, 2021 (File no. 001-35961) (the April 16, 2021 8-K)).
4.35	Additional Facility AW2 Accession Agreement dated April 12, 2021 and entered into between, among others, UPC Broadband Holding B.V. as the Borrower and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.2 to the April 16, 2021 8-K.
4.36	Amended Credit Agreement dated April 12, 2021 and entered into between, among others, UPC Broadband and Upsizing Revolving Facility lenders (named therein) and The Bank of Nova Scotia as the Facility Agent and Security Agent (incorporated by reference to Exhibit 4.3 to the April 16, 2021 8-K).
4.37	Additional Facility AX Accession Agreement dated April 20, 2021 and entered into between, among others, UPC Financing Partnership as the Borrower and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed April 26, 2021 (File no. 001-35961) (the April 26, 2021 8-K).
4.38	Additional Facility AY Accession Agreement dated April 20, 2021 and entered into between, among others, UPC Broadband Holding B.V. as the Borrower and The Bank of Nova Scotia as the Facility Agent (incorporated by reference to Exhibit 4.2 to the April 26, 2021 8-K).
4.39	Additional Facility AZ Accession Agreement dated April 21, 2021 and entered into between, among others, UPC Broadband Holding B.V. as the Company, UPC Financing Partnership as the Borrower, The Bank of Nova Scotia as the Facility Agent and UPC Broadband Finco B.V. as the Additional Facility AZ Lender (incorporated by reference to Exhibit 4.3 to the April 26, 2021 8-K).
4.40	Amendment and Restatement Agreement dated December 9, 2019 between Virgin Media Investment Holdings Limited (for itself and as agent on behalf of the other obligors) and The Bank of Nova Scotia (as facility agent), and attached as a schedule thereto, a copy of the Senior Facilities Agreement, originally dated June 7, 2013, between, among others, Virgin Media Investment Holdings Limited as a borrower and a guarantor, The Bank of Nova Scotia as facility agent and Deutsche Bank AG, London Branch as security trustee as amended and restated by the Amendment and Restatement Agreement (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed December 13, 2019 (File No. 001-35961)).
4.41	Indenture dated May 16, 2019, among Virgin Media Secured Finance PLC, as Issuer, BNY Mellon Corporate Trustee Services Limited as Trustee, The Bank of New York Mellon, London Branch, as Principal Paying Agent and The Bank of New York Mellon SA/NV, Luxembourg Branch, as Registrar and Transfer Agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K/A filed May 17, 2019 (File No. 001-35961)).
4.42	Supplemental Indenture, dated as of July 5, 2019, between Virgin Media Secured Finance PLC as Issuer and BNY Mellon Corporate Trustee Services Limited as Trustee, to the Indenture dated May 16, 2019 for 5.50% Senior Secured Notes and 5.25% Senior Secured Notes, each due 2029 (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed July 9, 2019 (File No. 001-35961)).

4.43	SFA/ICA Accession Deed dated October 21, 2019, among UPC Poland Holding B.V., UPC Polska Sp. z o. o., UPC Poland Property Sp. z o. o., Liberty Global Europe Holdco 2 B.V., and The Bank of Nova Scotia as the Facility Agent and Security Agent, to the Amended Credit Agreement to Senior Secured Credit Facility Agreement originally dated January 16, 2004 (as amended and restated from time to time, including the Supplemental Deed dated November 29, 2017) (incorporated by reference to Exhibit 4.6 to the Registrant's Quarterly Report on Form 10-Q filed November 6, 2019 (File No. 001-35961) (the November 2019 10-Q)).
4.44	Supplemental Agreement dated April 6, 2020 between, among others, Telenet BV as company, The Bank of Nova Scotia as facility agent and KBC Bank NV as security agent and attached as a schedule thereto, a copy of the Amended and Restated Credit Agreement dated April 6, 2020, between, among others, Telenet BV as original borrower and The Bank of Nova Scotia as facility agent and KBC Bank NV as security agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed April 10, 2020 (File No. 001-35961)).
4.45	Supplemental Deed dated April 23, 2020 between, among others, UPC Broadband Holding B.V. as Obligors' Agent and The Bank of Nova Scotia as facility agent and security agent and, attached as a schedule thereto, a copy of the Amended Senior Facilities Agreement dated April 23, 2020 between, among others, UPC Broadband Holding B.V. as borrower and The Bank of Nova Scotia as facility agent and security agent (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed April 29, 2020 (File No. 001-35961)).
4.46	Supplemental Deed dated May 23, 2022 between, among others, UPC Broadband Holding B.V. as Obligors' Agent and The Bank of Nova Scotia as Facility Agent and Security Agent and, attached, as a schedule thereto, a copy of the Amended Senior Facilities Agreement dated May 23, 2022 between, among others, UPC Broadband Holding B.V. as Borrower and The Bank of Nova Scotia as Facility Agent and Security Agent (Incorporated by reference to Exhibit 4.1 to the Registrant's Current report on Form 8-K filed May 25, 2022 (File No. 001-35961)).
	The Registrant undertakes to furnish to the Securities and Exchange Commission, upon request, a copy of all instruments with respect to long-term debt not filed herewith.
10 -- Material Contracts:	
10.1	Deed of Assumption of Liberty Global plc, dated June 7, 2013 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed June 7, 2013 (File No. 001-35961)(the June 7, 2013 8-K)).
10.2+	Liberty Global 2014 Incentive Plan (Amended and Restated effective June 11, 2019 (as amended and restated from time to time, the Incentive Plan) (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed August 8, 2019 (File No. 001-35961) (the August 2019 10-Q)).
10.3+	Liberty Global 2014 Nonemployee Director Incentive Plan Effective March 1, 2014 (the Director Plan) (incorporated by reference to Appendix B to the Registrant's Proxy Statement on Schedule 14A filed December 19, 2013 (File No. 001-35961)).
10.4+	Form of Non-Qualified Share Option Agreement under the Director Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q filed August 5, 2014 (File No. 001-35961) (the August 5, 2014 10-Q)).
10.5+	Form of Restricted Share Units Agreement under the Director Plan (incorporated by reference to Exhibit 10.4 to the August 5, 2014 10-Q).
10.6+	Liberty Global, Inc. 2005 Incentive Plan (as amended and restated effective June 7, 2013) (the 2005 Incentive Plan) (incorporated by reference to Exhibit 10.2 to the June 7, 2013 8-K).
10.7+	Liberty Global, Inc. 2005 Nonemployee Director Incentive Plan (as amended and restated effective June 7, 2013) (the 2005 Director Plan) (incorporated by reference to Exhibit 10.3 to the June 7, 2013 8-K).
10.8+	Virgin Media 2010 Stock Incentive Plan (as amended and restated effective June 7, 2013) (incorporated by reference to Exhibit 10.4 to the June 7, 2013 8-K).
10.9+	Form of Non-Qualified Share Option Agreement under the 2005 Director Plan (incorporated by reference to Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q filed August 1, 2013 (File No. 001-35961)).
10.10+	Liberty Global Compensation Policy for Nonemployee Directors effective June 21, 2017 (incorporated by reference to Appendix A to the Registrant's Proxy Statement on Schedule 14A filed May 1, 2017 (File No. 001-35961)).
10.11+	Form of Deed of Indemnity between Liberty Global and its Directors and Executive Officers (incorporated by reference to Exhibit 10.10 to the June 7, 2013 8-K).
10.12+	Form of Stock Appreciation Rights Agreement under the 2005 Incentive Plan (incorporated by reference to Exhibit 10.3 to Liberty Global, Inc.'s (LGI) Quarterly Report on Form 10-Q filed May 7, 2008 (File No. 000-51360)).
10.13+	Form of Performance Share Units Agreement for executive officers under the Incentive Plan (incorporated by reference to Exhibit 10.16 to the Registrant's Annual Report on Form 10-K filed February 27, 2019 and amended on Form 10-K/A filed March 27, 2019 (File No. 001-35961) (the 2019 10-K)).
10.14+	Liberty Global 2019 Challenge Performance Award program for senior management, including our executive officers under the Incentive Plan (a description of said program is incorporated by reference to the description thereof included in Item 5.02(e) of the Registrant's Current Report on Form 8-K filed March 13, 2019 (File No. 001-35961)).

10.15+	Liberty Global 2020 Annual Performance Award Program for executive officers under the Incentive Plan (description of said plan is incorporated by reference to the description thereof included in Item 5.02(e) of the Registrant's Current Report on Form 8-K filed April 3, 2020 (File No. 001-35961)).
10.16+	Deferred Compensation Plan (adopted effective December 15, 2008; Amended and Restated as of October 26, 2015)(incorporated by reference to Exhibit 10.29 to the Registrant's Annual Report on Form 10-K filed February 16, 2016 (File No. 001-35961) (the 2016 10-K)).
10.17+	Nonemployee Director Deferred Compensation Plan (As Amended and Restated Effective December 11, 2015)(incorporated by reference to Exhibit 10.30 to the 2016 10-K).
10.18+	Personal Usage of Aircraft Policy, restated June 7, 2013 (incorporated by reference to Exhibit 10.31 to the 2016 10-K).
10.19+	Form of Aircraft Time Sharing Agreement (7X) (incorporated by reference to Exhibit 10.29 to LGI's Annual Report on Form 10-K filed February 13, 2013 (File No. 000-51360)).
10.20+	Form of Share Appreciation Rights Agreement between the Registrant and our Chief Executive Officer under the Incentive Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed August 4, 2016 (File No. 001-35961)).
10.21+	Executive Service Agreement, dated December 15, 2004, between UPC Services Limited and Charles Bracken (incorporated by reference to Exhibit 10.36 to LGI's Annual Report on Form 10-K filed February 24, 2010 (File No. 000-51360)).
10.22+	Employment Agreement dated as of June 28, 2018, between LGI and Enrique Rodriguez (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed August 8, 2018 (File No. 001-35961)).
10.23+	Amended and Restated Employment Agreement dated as of April 30, 2019, by and among the Registrant, Liberty Global Inc. and Michael T. Fries (incorporated by reference to Exhibit 10.9 to the August 2019 10-Q).
10.24+	Employment Agreement, dated May 21, 2020, by and between Liberty Global, Inc. and Bryan H. Hall (incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed August 3, 2020 (File No. 001-35961) (the August 2020 10-Q)).
10.25+	Employment Agreement, dated May 19, 2005, by and between Liberty Global Europe Limited (formerly known as UGC Europe Services Ltd.) and Andrea Salvato, assigned by Liberty Global Europe Limited to Liberty Global plc on November 1, 2013 (incorporated by reference to Exhibit 10.3 to the August 2020 10-Q).
10.26+	Form of Performance Share Appreciation Rights Agreement under the Incentive Plan (incorporated by reference to Exhibit 10.2 to the August 2019 10-Q).
10.27+	Form of Performance Restricted Share Units Agreement (SHIP) under the Incentive Plan (incorporated by reference to Exhibit 10.4 to the August 2019 10-Q).
10.28+	Form of Share Appreciation Rights Agreement under the Incentive Plan (incorporated by reference to Exhibit 10.5 to the August 2019 10-Q).
10.29+	Form of Performance Share Units Agreement under the Incentive Plan (incorporated by reference to Exhibit 10.7 to the August 2019 10-Q).
10.30+	Form of Performance Share Units Agreement between the Registrant and our Chief Executive Officer under the Incentive Plan (incorporated by reference to Exhibit 10.8 to the August 2019 10-Q).
10.31+	Form of Share Appreciation Rights Agreement between Registrant and our Chief Executive Officer under the Incentive Plan (incorporated by reference to Exhibit 10.1 to the November 2019 10-Q).
10.32+	Form of Performance Share Appreciation Rights Agreement between Registrant and our Chief Executive Officer under the Incentive Plan (incorporated by reference to Exhibit 10.2 to the November 2019 10-Q).
10.33+	Form of Restricted Share Units Agreement (SHIP) under the Incentive Plan (incorporated by reference to Exhibit 10.6 to the November 2019 10-Q).
10.34+	Form of Restricted Share Units Agreement under the Incentive Plan (incorporated by reference to Exhibit 10.3 to the November 2019 10-Q).
10.35+	Form of Performance Restricted Share Units Agreement under the Incentive Plan (incorporated by reference to Exhibit 10.4 to the November 2019 10-Q).
10.36+	Form of Performance Restricted Share Units Agreement between Registrant and our Chief Executive Officer under the Incentive Plan (incorporated by reference to Exhibit 10.5 to the November 2019 10-Q).
10.37	Shareholders' Agreement, dated December 31, 2016, by and among, Vodafone International Holdings B.V., Vodafone Group Plc, Liberty Global Europe Holding B.V., the Registrant and Lynx Global Europe II B.V. (incorporated by reference to Exhibit 10.2 to the January 2017 8-K).
10.38	Shareholders Agreement, dated June 1, 2021, by and among Liberty Global plc, Liberty Global Europe 2 Limited, Liberty Global Holdco Limited, Telefonica, S.A. and Telefonica O2 Holdings Limited (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed June 4, 2021 (File No. 001-35961)).
10.39+	Liberty Global 2020 Long-Term Equity Incentive Program for executive officers under the Incentive Plan (description of said plan is incorporated by reference to the description thereof included in Item 5.02(e) of the Registrant's Current Report on Form 8-K filed April 3, 2020 (File No. 001-35961)).

10.40+	Liberty Global 2021 Long-Term Equity Incentive Program for executive officers under the Company's 2021 long-term incentive plan (description of said plan is incorporated by reference to the description thereof included in Item 5.02(e) of Registrant's Current Report on Form 8-K filed April 15, 2021 (File No. 001-35961)).
21 -- List of Subsidiaries*	
23 -- Consent of Experts and Counsel:	
23.1	Consent of KPMG LLP*
23.2	Consent of KPMG LLP**
23.3	Consent of KPMG Accountants N.V.**
31 -- Rule 13a-14(a)/15d-14(a) Certification:	
31.1	Certification of President and Chief Executive Officer*
31.2	Certification of Executive Vice President and Chief Financial Officer (Principal Financial Officer)*
31.3	Certification of President and Chief Executive Officer**
31.4	Certification of Executive Vice President and Chief Financial Officer (Principal Financial Officer)**
32 -- Section 1350 Certification ***	

101.SCH	Inline XBRL Taxonomy Extension Schema Document*
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document*
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase*
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document*
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document*
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)*

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* Filed with the Registrant's Form 10-K dated February 22, 2023

** Filed herewith

*** Furnished herewith

**** Schedules and similar attachments to the agreement have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Registrant hereby undertakes to furnish supplemental copies of any of the omitted schedules and similar attachments upon request by the United States Securities and Exchange Commission

+ This document has been identified as a management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

LIBERTY GLOBAL PLC

Dated: March 28, 2023

/s/ BRYAN H. HALL
Bryan H. Hall
Executive Vice President, General Counsel and Secretary

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the date indicated.

Signature	Title	Date
/s/ JOHN C. MALONE John C. Malone	Chairman of the Board	March 28, 2023
/s/ MICHAEL T. FRIES Michael T. Fries	President, Chief Executive Officer and Director	March 28, 2023
/s/ ANDREW J. COLE Andrew J. Cole	Director	March 28, 2023
/s/ MIRANDA CURTIS Miranda Curtis	Director	March 28, 2023
/s/ JOHN W. DICK John W. Dick	Director	March 28, 2023
/s/ PAUL A. GOULD Paul A. Gould	Director	March 28, 2023
/s/ RICHARD R. GREEN Richard R. Green	Director	March 28, 2023
/s/ LARRY E. ROMRELL Larry E. Romrell	Director	March 28, 2023
/s/ J. DAVID WARGO J. David Wargo	Director	March 28, 2023
/s/ MARISA DREW Marisa Drew	Director	March 28, 2023
/s/ DANIEL E. SANCHEZ Daniel E. Sanchez	Director	March 28, 2023
/s/ CHARLES H.R. BRACKEN Charles H.R. Bracken	Executive Vice President and Chief Financial Officer	March 28, 2023
/s/ JASON WALDRON Jason Waldron	Senior Vice President and Chief Accounting Officer	March 28, 2023

LIBERTY GLOBAL PLC

SCHEDULE I
(Parent Company Information - See Notes to Consolidated Financial Statements)

CONDENSED BALANCE SHEETS
(Parent Company Only)

	December 31, 2022	December 31, 2021
	in millions	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1.8	$ 1.7
Other receivables — related-party	89.8	31.3
Current notes receivable — related-party	0.8	0.8
Other current assets	7.5	30.5
Total current assets	99.9	64.3
Long-term notes receivable — related-party	190.0	455.4
Investments in consolidated subsidiaries, including intercompany balances	51,050.7	52,617.8
Other assets, net	16.8	6.7
Total assets	$ 51,357.4	$ 53,144.2
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1.1	$ 1.1
Other payables — related-party	78.5	72.0
Other current liabilities — related-party	0.6	—
Current portion of notes payable — related-party	12,590.2	11,281.7
Other accrued and current liabilities	25.0	23.9
Total current liabilities	12,695.4	11,378.7
Long-term notes payable — related-party	16,200.9	15,822.5
Other long-term liabilities	24.7	8.1
Total liabilities	28,921.0	27,209.3
Commitments and contingencies		
Shareholders' equity:		
Class A ordinary shares, $0.01 nominal value. Issued and outstanding 171,917,370 and 174,310,558 shares, respectively	1.8	1.8
Class B ordinary shares, $0.01 nominal value. Issued and outstanding 12,994,000 and 12,930,839 shares, respectively	0.1	0.1
Class C ordinary shares, $0.01 nominal value. Issued and outstanding 274,436,585 and 340,114,729 shares, respectively	2.7	3.4
Additional paid-in capital	2,300.8	3,893.0
Accumulated earnings	19,617.7	18,144.5
Accumulated other comprehensive earnings, net of taxes	513.4	3,892.2
Treasury shares, at cost	(0.1)	(0.1)
Total shareholders' equity	22,436.4	25,934.9
Total liabilities and shareholders' equity	$ 51,357.4	$ 53,144.2

LIBERTY GLOBAL PLC

SCHEDULE I
(Parent Company Information - See Notes to Consolidated Financial Statements)

CONDENSED STATEMENTS OF OPERATIONS
(Parent Company Only)

	Year ended December 31,		
	2022	2021	2020
		in millions	
Operating costs and expenses:			
Selling, general and administrative (including share-based compensation)	$ 55.7	$ 77.6	$ 58.8
Related-party fees and allocations	239.3	182.5	36.0
Depreciation and amortization	1.2	1.4	1.4
Operating loss	(296.2)	(261.5)	(96.2)
Non-operating income (expense):			
Interest expense — related-party	(1,308.7)	(1,185.6)	(1,086.9)
Interest income — related-party	15.1	31.7	45.1
Foreign currency transaction gains (losses), net	274.8	317.7	(330.2)
Realized and unrealized gains on derivative instruments, net	61.5	9.0	—
Other income, net	0.3	0.1	2.1
	(957.0)	(827.1)	(1,369.9)
Loss before income taxes and equity in earnings (loss) of consolidated subsidiaries, net	(1,253.2)	(1,088.6)	(1,466.1)
Equity in earnings (loss) of consolidated subsidiaries, net	2,726.4	14,530.5	(401.0)
Income tax benefit (expense)	—	(15.1)	239.1
Net earnings (loss)	$ 1,473.2	$ 13,426.8	$ (1,628.0)

LIBERTY GLOBAL PLC

SCHEDULE I
(Parent Company Information - See Notes to Consolidated Financial Statements)

CONDENSED STATEMENTS OF CASH FLOWS
(Parent Company Only)

	Year ended December 31,		
	2022	2021	2020
		in millions	
Cash flows from operating activities:			
Net earnings (loss)	$ 1,473.2	$ 13,426.8	$ (1,628.0)
Adjustments to reconcile net earnings (loss) to net cash used by operating activities:			
Equity in loss (earnings) of consolidated subsidiaries, net	(2,726.4)	(14,530.5)	401.0
Share-based compensation expense	28.4	49.4	30.4
Related-party fees and allocations	239.3	182.5	36.0
Depreciation and amortization	1.2	1.4	1.4
Realized and unrealized gains on derivative instruments, net	(61.5)	(9.0)	—
Foreign currency transaction losses (gains), net	(274.8)	(317.7)	330.2
Deferred income tax expense (benefit)	—	15.1	(15.1)
Changes in operating assets and liabilities:			
Receivables and other operating assets	138.5	85.3	(135.0)
Payables and accruals	654.7	709.9	865.9
Net cash used by operating activities	(527.4)	(386.8)	(113.2)
Cash flows from investing activities:			
Net cash received related to derivative instruments	50.0	—	—
Distributions and repayments from (investments in and advances to) consolidated subsidiaries, net	22.4	(274.8)	(494.1)
Cash released from the Vodafone Escrow Accounts, net	6.5	214.9	104.9
Other investing activities, net	—	(0.1)	(0.1)
Net cash provided (used) by investing activities	78.9	(60.0)	(389.3)
Cash flows from financing activities:			
Borrowings of related-party debt	2,187.8	2,445.3	2,087.5
Repayments of related-party debt	(26.5)	(443.3)	(483.2)
Repurchases of Liberty Global ordinary shares	(1,703.4)	(1,580.4)	(1,072.3)
Proceeds from the issuance of Liberty Global shares upon exercise of options	13.0	8.9	2.2
Other financing activities, net	(20.8)	(15.3)	(5.1)
Net cash provided by financing activities	450.1	415.2	529.1
Effect of exchange rate changes on cash and cash equivalents and restricted cash	(1.5)	0.1	(0.2)
Net increase (decrease) in cash and cash equivalents and restricted cash	0.1	(31.5)	26.4
Cash and cash equivalents and restricted cash:			
Beginning of year	6.8	38.3	11.9
End of year	$ 6.9	$ 6.8	$ 38.3
Details of end of year cash and cash equivalents and restricted cash:			
Cash and cash equivalents	$ 1.8	$ 1.7	$ 33.1
Restricted cash included in other current assets	5.1	5.1	5.2
Total cash and cash equivalents and restricted cash	$ 6.9	$ 6.8	$ 38.3

LIBERTY GLOBAL PLC

SCHEDULE II
VALUATION AND QUALIFYING ACCOUNTS

	Allowance for doubtful accounts — Trade receivables							
	Balance at beginning of period	Impact of adoption of ASU 2014-09	Additions to costs and expenses	Acquisitions	Dispositions	Deductions or write-offs	Foreign currency translation adjustments	Balance at end of period
	in millions							
Year ended December 31:								
2020	$ 41.7	1.4	81.8	19.4	(26.2)	(73.6)	3.8	$ 48.3
2021	$ 48.3	—	16.3	(1.6)	—	(18.5)	(2.5)	$ 42.0
2022	$ 42.0	—	30.8	—	—	(28.5)	(1.2)	$ 43.1

	Allowance for doubtful accounts — Loans to affiliates				
	Balance at beginning of period	Impact of adoption of ASU 2016-13	Additions to costs and expenses	Foreign currency translation adjustments	Balance at end of period
	in millions				
Year ended December 31:					
2020	$ —	25.4	10.3	2.8	$ 38.5
2021	$ 38.5	—	1.0	(2.3)	$ 37.2
2022	$ 37.2	—	(4.5)	(2.5)	$ 30.2

Independent Auditors' Report

The Board of Directors
VMED O2 UK Limited:

Opinion

We have audited the consolidated financial statements of VMED O2 UK Limited and its subsidiaries (the Company), which comprise the consolidated balance sheets as of December 31, 2022 and 2021, and the related consolidated statements of operations, comprehensive loss, owners' equity, and cash flows for the periods then ended, and the related notes to the consolidated financial statements.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the periods then ended in accordance with U.S. generally accepted accounting principles.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with U.S. generally accepted accounting principles, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for one year after the date that the consolidated financial statements are issued.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the consolidated financial statements.
In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, no such opinion is expressed.

- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the consolidated financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

/s/ KPMG LLP

London, UK
March 28, 2023

VMED O2 UK LIMITED

CONSOLIDATED BALANCE SHEETS

	31 December			
	2022		2021	
	in millions			
ASSETS				
Current assets:				
Cash and cash equivalents	£	478.2	£	324.7
Trade receivables, net (note 15)		1,360.5		1,902.0
Related-party receivables (note 15)		4.5		410.6
Prepaid expenses		248.5		231.9
Other current assets (notes 5, 6, 7, 12 and 15)		1,260.8		704.3
Total current assets		3,352.5		3,573.5
Property, plant and equipment, net (notes 8 and 11)		8,573.1		8,729.0
Goodwill (note 8)		17,740.8		20,798.8
Intangible assets subject to amortization, net (note 8)		7,647.0		8,596.5
Other assets, net (notes 5, 6, 7, 9, 11, 15 and 17)		3,856.3		2,952.2
Total assets	£	41,169.7	£	44,650.0
LIABILITIES AND OWNERS' EQUITY				
Current liabilities:				
Accounts payable (note 15)	£	919.4	£	948.3
Contract liabilities (notes 5 and 15)		538.3		587.1
Current portion of debt and finance lease obligations (notes 10 and 11)		3,125.7		2,962.6
Other accrued and current liabilities (notes 6, 7, 11, 15 and 16)		2,517.8		2,335.6
Total current liabilities		7,101.2		6,833.6
Long-term debt and finance lease obligations (notes 10 and 11)		16,730.9		15,871.5
Other long-term liabilities (notes 5, 6, 7, 11, 12, 15, 16 and 17)		1,152.1		1,561.5
Total liabilities		24,984.2		24,266.6
Commitments and contingencies (notes 6, 7, 10, 11, 12, 16, 17 and 19)				
Owners' equity:				
Additional paid-in capital		18,901.9		20,476.3
Accumulated deficit		(2,585.2)		(126.5)
Accumulated other comprehensive earnings (loss)		(131.2)		33.6
Total owners' equity		16,185.5		20,383.4
Total liabilities and owners' equity	£	41,169.7	£	44,650.0

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

VMED O2 UK LIMITED

CONSOLIDATED STATEMENTS OF OPERATIONS

		Year ended 31 December 2022		Period from 1 June 2021 to 31 December 2021
		in millions		
Revenue (notes 5, 15 and 20)	£	10,391.9	£	6,226.1
Operating costs and expenses (exclusive of depreciation and amortization, shown separately below):				
Programming and other direct costs of services (note 15)		3,425.9		2,217.7
Other operating (note 15)		1,599.2		986.9
Selling, general and administrative (**SG&A**) (notes 14 and 15)		1,701.2		1,082.1
Depreciation and amortization (note 8)		3,320.7		1,863.7
Impairment, restructuring and other operating items, net (note 16)		3,120.9		42.8
		13,167.9		6,193.2
Operating income (loss)		(2,776.0)		32.9
Non-operating income (expense):				
Interest expense (note 15)		(821.4)		(415.4)
Interest income (note 15)		20.8		9.4
Realized and unrealized gains on derivative instruments, net (notes 6 and 7)		2,188.2		417.1
Foreign currency transaction losses, net		(1,104.4)		(313.2)
Losses on debt extinguishment, net (note 10)		—		(0.3)
Share of results of affiliates, net (note 9)		35.9		7.4
Other income, net		21.8		5.2
		340.9		(289.8)
Loss before income taxes		(2,435.1)		(256.9)
Income tax (expense) benefit (note 12)		(23.6)		130.4
Net loss	£	(2,458.7)	£	(126.5)

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

VMED O2 UK LIMITED

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

		Year ended 31 December 2022		Period from 1 June 2021 to 31 December 2021
		in millions		
Net loss	£	(2,458.7)	£	(126.5)
Other comprehensive earnings (loss), net of taxes (note 18):				
Pension-related adjustments (note 17)		(195.3)		20.3
Foreign currency translation adjustments		30.5		13.3
Other comprehensive earnings (loss)		(164.8)		33.6
Comprehensive loss	£	(2,623.5)	£	(92.9)

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

VMED O2 UK LIMITED

CONSOLIDATED STATEMENTS OF OWNERS' EQUITY

	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive earnings (loss), net of taxes	Total owners' equity
	in millions			
Balance at 1 January 2022	£ 20,476.3	£ (126.5)	£ 33.6	£ 20,383.4
Net loss	—	(2,458.7)	—	(2,458.7)
Other comprehensive loss, net of taxes (notes 17 and 18)	—	—	(164.8)	(164.8)
Share-based compensation (note 14)	25.6	—	—	25.6
Dividends paid (note 13)	(1,600.0)	—	—	(1,600.0)
Balance at 31 December 2022	£ 18,901.9	£ (2,585.2)	£ (131.2)	£ 16,185.5

	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive earnings, net of taxes	Total owners' equity
	in millions			
Balance at 1 June 2021	£ 20,773.8	£ —	£ —	£ 20,773.8
Net loss	—	(126.5)	—	(126.5)
Other comprehensive earnings, net of taxes (notes 17 and 18)	—	—	33.6	33.6
Share-based compensation (note 14)	23.4	—	—	23.4
Dividends paid (note 13)	(322.0)	—	—	(322.0)
Other, net	1.1	—	—	1.1
Balance at 31 December 2021	£ 20,476.3	£ (126.5)	£ 33.6	£ 20,383.4

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

VMED O2 UK LIMITED

CONSOLIDATED STATEMENTS OF CASH FLOWS

		Year ended 31 December 2022		Period from 1 June 2021 to 31 December 2021
		in millions		
Cash flows from operating activities:				
Net loss	£	(2,458.7)	£	(126.5)
Adjustments to reconcile net loss to net cash provided by operating activities:				
Share-based compensation expense		43.6		23.4
Depreciation and amortization		3,320.7		1,863.7
Impairment, restructuring and other operating items, net		3,120.9		42.8
Amortization of deferred financing costs and non-cash interest		(9.6)		(5.8)
Realized and unrealized gains on derivative instruments, net		(2,188.2)		(417.1)
Foreign currency transaction losses, net		1,104.4		313.2
Losses on debt extinguishment, net		—		0.3
Share of results of affiliates, net		(35.9)		(7.4)
Deferred tax expense (benefit)		66.9		(78.5)
Changes in operating assets and liabilities, net of the effect of acquisitions and dispositions		(186.5)		(27.8)
Net cash provided by operating activities		2,777.6		1,580.3
Cash flows from investing activities:				
Capital expenditures, net		(1,290.8)		(478.2)
Dividends received from affiliates		15.0		—
Repayments from affiliates		187.5		—
Other investing activities, net		45.3		26.7
Net cash used by investing activities	£	(1,043.0)	£	(451.5)

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

VMED O2 UK LIMITED

CONSOLIDATED STATEMENTS OF CASH FLOWS — (Continued)

	Year ended 31 December 2022	Period from 1 June 2021 to 31 December 2021
	in millions	
Cash flows from financing activities:		
Repayments and repurchases of debt and finance lease obligations		
Principal payments on operating-related vendor financing	£ (2,247.3)	£ (1,241.3)
Debt (excluding vendor financing)	(869.0)	(2,155.4)
Principal payments on capital-related vendor financing	(860.6)	(715.6)
Principal payments on finance leases	(14.4)	(4.3)
Borrowings of debt	3,637.9	3,537.6
Dividends paid	(1,600.0)	(322.0)
Payment of financing costs and debt premiums	(11.6)	(27.6)
Net cash received related to derivative instruments	381.2	26.9
Other financing activities, net	(0.3)	(7.2)
Net cash used by financing activities	(1,584.1)	(908.9)
Effect of exchange rate changes on cash and cash equivalents and restricted cash	3.4	(1.5)
Net increase in cash and cash equivalents and restricted cash	153.9	218.4
Cash and cash equivalents and restricted cash:		
Beginning of year	365.8	147.4
End of year	£ 519.7	£ 365.8
Cash paid for interest	£ 812.4	£ 360.3
Net cash paid for income taxes	£ 2.8	£ 6.9
Details of end of period cash and cash equivalents and restricted cash:		
Cash and cash equivalents	£ 478.2	£ 324.7
Restricted cash included in other current assets and other assets, net	41.5	41.1
Total cash and cash equivalents and restricted cash	£ 519.7	£ 365.8

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

(1) Basis of Presentation

VMED O2 UK Limited (**VMED O2**) is an integrated communications provider of mobile, broadband internet, video and fixed-line telephony services to residential customers and businesses in the United Kingdom (**U.K.**). In these notes, the terms "we," "our," "our Company" and "us" may refer, as the context requires, to VMED O2 or collectively to VMED O2 and its subsidiaries. As of 31 December 2022, the primary subsidiaries of VMED O2 include (i) Virgin Media Inc. and its subsidiaries (collectively, **Virgin Media**) and (ii) O2 Holdings Limited and its subsidiaries (collectively, **O2**).

VMED O2, which was formed on 1 June 2021 (the **JV Transaction**), is a 50:50 joint venture between Liberty Global plc (**Liberty Global**) and Telefónica, SA (**Telefónica**) (the **Joint Venture**). In these consolidated financial statements, Liberty Global and Telefónica are each referred to as a "**Shareholder**". Prior to the completion of the JV Transaction, (i) Virgin Media was a wholly-owned subsidiary of Liberty Global that provided fixed and mobile communications services in the U.K. and (ii) O2 was a wholly-owned subsidiary of Telefónica that provided mobile communications services in the U.K. For additional information on the formation of the Joint Venture, see note 2.

These consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (**GAAP**). Unless otherwise indicated, convenience translations into pound sterling are calculated as of 31 December 2022.

These consolidated financial statements reflect our consideration of the accounting and disclosure implications of subsequent events through 28 March 2023, the date of issuance.

Correction of Immaterial Errors

During the current year, management identified immaterial errors which resulted in the revision of the Company's comparative financial statements, as further described below:

Leases. The Company identified an error due to the omission of a sublease with a related party, Cornerstone Telecommunications Infrastructure Limited (**CTIL**). This resulted in understatements in right-of-use (**ROU**) assets, current operating lease liabilities and long-term operating lease liabilities of £156.0 million, £35.5 million and £113.8 million, respectively, and an overstatement in goodwill of £6.7 million on the Joint Venture's 1 June 2021 opening balance sheet. As a result, other operating expenses and share of results of affiliates, net, were each understated by £21.8 million in the consolidated statement of operations for the period from 1 June 2021 to 31 December 2021, representing the operating lease expense of VMED O2 and the corresponding share of CTIL's lease income. On the 31 December 2021 comparative balance sheet, ROU assets, current operating lease liabilities, long-term operating lease liabilities, other long-term liabilities and equity-method investments were understated by £140.4 million, £35.5 million, £107.8 million, £12.2 million and £21.8 million, respectively, and goodwill was overstated by £6.7 million. ROU assets, current operating lease liabilities, long-term operating lease liabilities, other long-term liabilities and equity-method investments are included in other assets, net, other accrued and current liabilities, other long-term liabilities, other long-term liabilities, and other assets, net, respectively, on our consolidated balance sheet.

Handset securitization. The Company identified an error in relation to the imputed interest on handset securitization. This resulted in overstatements in trade receivables, net, and other assets, net of £96.4 million and £72.0 million, respectively, and understatements in goodwill and deferred tax assets of £136.4 million and £32.0 million, respectively, on the Joint Venture's 1 June 2021 opening balance sheet and the 31 December 2021 comparative balance sheet. Deferred tax assets are included in other assets, net, on our consolidated balance sheet. All increases from new receivables and decreases from the unwind of imputed interest for the period from 1 June 2021 to 31 December 2021 were appropriately accounted for in our comparative financial statements.

Software. The Company identified an error in the classification of software on the 31 December 2021 comparative balance sheet. Computer software gross carrying amount, computer software accumulated amortization and software assets in progress of £226.7 million, £65.6 million and £47.7 million, respectively, were inappropriately classified as intangible assets. This resulted in an overstatement in intangible assets subject to amortization, net, and an understatement in property, plant and equipment, net, each by £208.8 million.

Related-party. The Company identified a classification error in relation to related-party accounts payable of £114.9 million, which were correctly reported on the 31 December 2021 consolidated balance sheet but were not separately disclosed as a related-party balance within the accompanying notes.

In these consolidated financial statements, all prior year amounts have been corrected for the immaterial errors described above.

(2) Joint Venture Formation

The JV Transaction was completed on 1 June 2021. We have accounted for the JV Transaction using the acquisition method of accounting in accordance with Financial Accounting Standards Board (the **FASB**) Topic 805, *Business Combinations*. The identifiable net assets of both Virgin Media and O2 were assessed for their respective fair values in accordance with purchase price allocation accounting and the excess of VMED O2's business enterprise value over the fair value of these identifiable net assets was allocated to goodwill. A summary of the fair values of the identifiable assets and liabilities of VMED O2 at the 1 June 2021 transaction date is presented in the following table (in millions):

Current assets	£	2,956.3
Property, plant and equipment, net		8,843.1
Goodwill		20,798.8
Intangible assets subject to amortization, net		9,373.7
Other assets, net		2,939.9
Current portion of debt and finance lease obligations		(3,073.5)
Other accrued and current liabilities		(4,081.9)
Long-term debt and finance lease obligations		(15,449.8)
Other long-term liabilities		(1,532.8)
Total fair value of the net assets of VMED O2	£	20,773.8

For more information on the fair value measurement assessments made in connection with the JV Transaction, see note 7.

(3) Recent Accounting Pronouncements

ASU 2022-04

In September 2022, the FASB issued Accounting Standards Update (**ASU**) No. 2022-04, *Liabilities—Supplier Finance Programs* (**ASU 2022-04**), which requires additional disclosures for buyers participating in supplier financing programs, which we refer to as vendor financing, including (i) the key terms of the arrangement, (ii) the confirmed amount outstanding at the end of the period, (iii) the balance sheet presentation of related amounts and (iv) a reconciliation of the balances from period to period. ASU 2022-04 is effective for annual reporting periods beginning after 15 December 2022, including interim periods within those fiscal years, with early adoption permitted. We do not expect ASU 2022-04 to have a significant impact on our consolidated financial statements. For additional information regarding our vendor financing obligations, see note 10.

ASU 2021-08

In October 2021, the FASB issued ASU No. 2021-08, *Accounting for Contract Assets and Contract Liabilities from Contracts with Customers* (**ASU 2021-08**), which requires contract assets and contract liabilities acquired in a business combination to be recognized and measured in accordance with Topic 606, *Revenue from Contracts with Customers*, as if the acquirer had originated the contracts. ASU 2021-08 is effective for annual reporting periods beginning after 15 December 2022, including interim periods within those fiscal years, with early adoption permitted. The main impact of the adoption of ASU 2021-08 will be the recognition of contract assets and contract liabilities in future business combinations at amounts generally consistent with the carrying value of such assets and liabilities of the acquiree immediately before the acquisition date.

ASU 2020-04

In April 2020, the FASB issued ASU No. 2020-04, *Facilitation of the Effects of Reference Rate Reform on Financial Reporting* (**ASU 2020-04**), which provides optional expedients and exceptions for contract modifications, subject to meeting certain criteria, that reference the London Interbank Offered Rate (**LIBOR**) or another reference rate expected to be discontinued. In accordance with the optional expedients in ASU 2020-04, we modified certain of our debt agreements during 2022 to replace sterling LIBOR (**GBP LIBOR**) 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 in ASU 2020-04 has not had a significant impact on our consolidated financial statements for the year ended 31 December 2022 and we do not believe it will have a significant impact on our consolidated financial statements in the future. For additional information regarding our debt, see note 10.

(4) <u>Summary of Significant Accounting Policies</u>

Estimates

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

Principles of Consolidation

The accompanying consolidated financial statements include our accounts and those of our majority-owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation. We also consolidate entities in which we have a controlling financial interest based on either the variable interest entity (**VIE**) or voting interest model. We are required to first apply the VIE model to determine whether we hold a variable interest in an entity, and if so, whether the entity is a VIE. If we determine we do hold a variable interest in a VIE, we then apply the voting interest model. Under the voting interest model, we consolidate an entity when we hold a majority voting interest in an entity. We account for investments in which we have significant influence but not a controlling financial interest using the equity method of accounting.

An entity is considered to be a VIE if any of the following conditions exist: (a) the total equity investment at risk is not sufficient to permit the entity to finance its activities without additional subordinated financial support, (b) the holders of the equity investment at risk, as a group, lack either the direct or indirect ability through voting rights or similar rights to make decisions that have a significant effect on the success of the entity or the obligation to absorb the entity’s expected losses or right to receive the entity’s expected residual returns, or (c) the voting rights of some equity investors are disproportionate to their obligation to absorb losses of the entity, their rights to receive returns from an entity, or both and substantially all of the entity’s activities either involve or are conducted on behalf of an investor with disproportionately few voting rights.

We consolidate entities that are VIEs when we determine we are the primary beneficiary. Generally, the primary beneficiary of a VIE is a reporting entity that has (a) the power to direct the activities that most significantly affect the VIE’s economic performance, and (b) the obligation to absorb losses of, or the right to receive benefits from, the VIE that could potentially be significant to the VIE.

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 in escrow related to our pension plans. Restricted cash amounts that are required to be used to purchase long-term assets or repay long-term debt are classified as long-term assets. All other cash that is restricted to a specific use is classified as current or long-term based on the expected timing of the disbursement.

Our significant non-cash investing and financing activities are disclosed in our consolidated statements of equity and in notes 6, 8, 10, 11 and 15.

Statements of Cash Flows

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 finance lease arrangements. Instead, these amounts are reflected as non-cash additions to our property, plant and equipment when the underlying assets are delivered, and as repayments of debt when the principal is repaid.

Trade Receivables

Our trade receivables are reported net of an allowance for doubtful accounts. The allowance for doubtful accounts was £102.0 million and £71.6 million at 31 December 2022 and 2021, respectively. The allowance for doubtful accounts is 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.

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.

Investments

We make elections, on an investment-by-investment basis, as to whether we measure our investments at fair value. Such elections are generally irrevocable. With the exception of those investments over which we exercise significant influence, we would generally elect the fair value method. For those investments over which we exercise significant influence, we generally elect the equity method.

Under the equity method, investments are recorded at cost and are subsequently increased or reduced to reflect our share of net earnings or losses. All costs directly associated with the acquisition of an investment to be accounted for using the equity method are included in the carrying amount of the investment.

Under the fair value method, investments are recorded at fair value and any changes in fair value are reported in realized and unrealized gains or losses, net, in our consolidated statements of operations. All costs directly associated with the acquisition of an investment to be accounted for using the fair value method are expensed as incurred.

All VMED O2 investments held at 31 December 2022 and 2021 are investments that we exercise significant influence over, and as such have been accounted for as equity method investments.

Dividends from our equity method investees are reflected as reductions in the carrying values of the applicable investments. Dividends 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.

We continually review all of our equity method investments to determine whether a decline in fair value below the cost basis is deemed other-than temporary. The primary factors we consider in our determination are the extent and length of time that the fair value of the investment is below our company's carrying value and the financial condition, operating performance and near-term prospects of the investee. If the decline in fair value of an equity method investment is deemed to be other than-temporary, the cost basis would be written down to fair value.

Financial Instruments

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

Derivative Instruments

All derivative instruments, whether designated as hedging relationships or not, are recorded as assets or liabilities on the balance sheet at fair value. If the derivative instrument is not designated as a hedge, changes in the fair value of the derivative instrument are recognized in earnings. If the derivative instrument is designated as a cash flow hedge, the effective portions of changes in the fair value of the derivative instrument are recorded in other comprehensive earnings or loss and subsequently reclassified into our consolidated statements of operations when the hedged forecasted transaction affects earnings. Ineffective portions of changes in the fair value of cash flow hedges are recognized in earnings. We generally do not apply hedge accounting to our derivative instruments.

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

For information regarding our derivative instruments, see note 6.

Property, Plant and Equipment

Property, plant and equipment are stated at cost less accumulated depreciation. When parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment. We capitalize costs associated with the construction of new cable transmission and distribution facilities and the installation of new cable services. Capitalized construction and installation costs include materials, labour and other directly attributable costs. Installation activities that are capitalized include (i) the initial connection (or drop) from our cable system to a customer location, (ii) the replacement of a drop and (iii) the installation of equipment for additional services, such as digital cable, telephone or broadband internet service. The costs of other customer-facing activities, such as reconnecting and disconnecting customer locations and repairing or maintaining drops, are expensed as incurred. We capitalize interest with respect to construction activities where material. There was no such capitalization during the period presented.

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

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

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

We recognize a liability for asset retirement obligations in the period in which it is incurred if sufficient information is available to make a reasonable estimate of fair values. Asset retirement obligations may arise from the loss of rights of way that we obtain from local municipalities or other relevant authorities, as well as our obligations under certain lease arrangements to restore the property to its original condition at the end of the lease term. Given the nature of our operations, most of our rights of way and certain leased premises are considered integral to our business. Accordingly, for most of our rights of way and certain lease agreements, the possibility is remote that we will incur significant removal costs in the foreseeable future and, as such, we do not have sufficient information to make a reasonable estimate of fair value for these asset retirement obligations.

As of 31 December 2022 and 2021, the recorded value of our asset retirement obligations was £66.6 million and £60.1 million, respectively.

Intangible Assets

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

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

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

Impairment of Property, Plant and Equipment and Intangible Assets

When circumstances warrant, we review the carrying amounts of our property, plant 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. 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 and whenever facts and circumstances indicate that a reporting unit’s carrying amount may not be recoverable. We first make a qualitative assessment to determine if the goodwill may be impaired. If it is more-likely-than-not that a reporting unit’s fair value is less than its carrying value, we then compare the fair value of the reporting unit to its respective carrying amount. Any excess of the carrying amount over the fair value would be charged to operations as an impairment loss. A reporting unit is an operating segment or one level below an operating segment (referred to as a “component”).

Leases

For leases with a term greater than 12 months, we recognize on the lease commencement date (i) 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.

With respect to our finance leases, (i) ROU assets are generally depreciated on a straight-line basis over the shorter of the lease term or the useful life of the asset and (ii) interest expense on the lease liability is recorded using the effective interest method. Operating lease expense is recognized on a straight-line basis over the lease term. For leases with a term of 12 months or less (short-term leases), we do not recognize ROU assets or lease liabilities. Short-term lease expense is recognized on a straight-line basis over the lease term.

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 for operating loss and tax credit carryforwards, using enacted tax rates in effect for each taxing jurisdiction in which we operate for the year in which those temporary differences are expected to be recovered or settled. We recognize the financial statement effects of a tax position when it is more-likely-than-not, based on the technical merits, that the position will be sustained upon examination. Deferred tax assets are then reduced by a valuation allowance to the amount that is more-likely-than-not to be realized. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in earnings in the period that includes the enactment date. Deferred tax liabilities related to investments in foreign subsidiaries and foreign corporate joint ventures that are essentially permanent in duration are not recognized if the indefinite reinvestment criterion is met. In order to be considered indefinitely reinvested, 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. United States (**U.S.**) tax law has a requirement, known as global intangible low-taxed income (**GILTI**), that certain income earned by foreign subsidiaries 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. Interest and penalties related to income taxes are included in income tax benefit or expense in our consolidated statements of operations.

For additional information regarding our income taxes, see note 12.

Employee Benefits - Retirement Benefit Obligations

We operate both defined benefit and defined contribution plans. A defined benefit plan is a pension plan that sets the amount of pension benefit an employee will receive upon retirement, usually dependent on one or more factors such as age, years of service and compensation. A defined contribution plan is a pension plan under which VMED O2 makes contributions on behalf of employees to their individual pension accounts which are held by a third party trustee. The ultimate benefit the employee will receive upon retirement is dependent on the contributions made during the employee’s service period as well as the performance of the investments in each employee’s individual account. After an employee’s service period has ended, VMED O2 has no further obligation to contribute to a defined contribution plan. Only our defined contributions schemes remain open to new participants.

For our defined benefit plans, we recognize each pension or post retirement plan’s funded status as either an asset or liability on the consolidated balance sheets. The net pension asset or net pension liability recognized represents the present value of the projected benefit obligation less the fair value of the plan assets at the reporting date. The projected benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the projected benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high quality corporate bonds. The corporate bonds used for this calculation are denominated in the currency in which the benefits will be paid and have terms to maturity approximating the term of the projected benefit obligation. Expected return on plan assets is determined by applying the return on assets assumptions to the actual fair value of plan assets.

Actuarial gains and losses are measured annually as of 31 December, or upon a remeasurement event, and are recognized within other comprehensive income. The net actuarial gain or loss recorded in other comprehensive income is subject to the "corridor" rule. The corridor is calculated as 10% of the greater of the projected benefit obligation or the fair value of the plan assets. The amount of the net actuarial gain or loss in excess of the corridor is amortized on a straight-line basis to the income statement over the average remaining service period of plan participants. During the period this "corridor" threshold has not been reached; therefore, no portion of the net actuarial gain in other comprehensive income has been released to the income statement. We also recognize any prior service costs and credits that from changes in the plan benefits during the period as a component of other comprehensive income, net of applicable income tax. Prior service costs and credits are amortized over the average remaining service period of the employees expected to receive benefits.

Foreign Currency Translation and Transactions

The reporting currency of our Company is the pound sterling. The functional currency of our foreign operations generally is the applicable local currency for each foreign subsidiary. 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 operations 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 earnings or loss in our consolidated statements of 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 operations 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 functional currencies are recorded based on exchange rates at the time such transactions arise. Changes in exchange rates with respect to amounts recorded on our consolidated balance sheets related to these non-functional currency transactions result in transaction gains and losses that are reflected in our consolidated statements of operations as unrealized (based on the applicable period end exchange rates) or realized upon settlement of the transactions.

Revenue Recognition

Service Revenue — Fixed-line Networks. We recognize revenue from the provision of broadband internet, video and fixed-line telephony services over our fixed-line 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 fixed-line 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 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. When 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 instalments 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 non-recurring fees received on business-to-business (**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.

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 fulfilment 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 and Other Value-Added Taxes (**VAT**). Revenue is recorded net of applicable sales and other VAT.

For additional information regarding our revenue recognition and related costs, see note 5. For a disaggregation of our revenue by major category, see note 20.

Share-based Compensation

We recognize all share-based and long term incentive payments from Liberty Global and Telefónica to our 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. Where borne by our Company, payroll taxes incurred in connection with the vesting or exercise of share-based incentive awards are recorded as a component of share-based compensation expense in our consolidated statements of operations. The fair value of share-based payments is calculated at the grant date using an adjusted statistical model. We consider historical trends in our calculation of the expected life of options, where applicable. We use the straight-line method to recognize share-based compensation expense for outstanding share awards to our employees that do not contain a performance condition and the accelerated expense attribution method for our outstanding share awards that contain a performance condition and vest on a graded basis.

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

(5) Revenue Recognition and Related Costs

Contract Balances

Our contract assets were £302.8 million and £310.6 million as of 31 December 2022 and 2021, respectively. The current and non-current portions of our contract assets are included within other current assets and other assets, net, respectively, on our consolidated balance sheets.

Our contract liabilities were £677.7 million and £751.7 million as of 31 December 2022 and 2021, respectively. The current and non-current portions of our contract liabilities are included within other accrued and current liabilities and other long-term liabilities, respectively, on our consolidated balance sheets.

During the year ended 31 December 2022 and the period from 1 June 2021 to 31 December 2021, we recognized revenue of £545.2 million and £249.6 million, respectively, that was included in our contract liability balances at 31 December 2021 and 1 June 2021.

Contract Costs

Our aggregate assets associated with incremental costs to obtain and fulfil our contracts were £143.8 million and £73.5 million at 31 December 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, on our consolidated balance sheets. We amortized £102.0 million and £61.2 million during the year ended 31 December 2022 and period from 1 June 2021 to 31 December 2021, respectively, to operating costs and expenses associated with our assets.

Unsatisfied Performance Obligations

Revenue from customers who are subject to contracts is generally recognized over the term of such contracts, which is typically one to two years for our mobile and fixed service contracts, one to five years for our B2B service contracts and one to six years for other contracts.

(6) Derivative Instruments

In general, we enter into derivative instruments to protect against (i) increases in the interest rates on our variable-rate debt and (ii) foreign currency movements, particularly with respect to borrowings that are denominated in a currency other than the functional currency of the borrowing entity. In this regard, we have entered into various derivative instruments to manage interest rate exposure and foreign currency exposure with respect to the U.S. dollar ($) and the euro (€). 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 realized and unrealized gains or losses on derivative instruments, net, in our consolidated statements of operations.

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

	31 December 2022			31 December 2021		
	Current	Long-term	Total	Current	Long-term	Total
	in millions					
Assets (a):						
Cross-currency and interest rate derivative contracts (b)	£ 358.2	£ 1,700.3	£ 2,058.5	£ 95.1	£ 398.9	£ 494.0
Foreign currency forward and option contracts	4.5	—	4.5	0.5	—	0.5
Total	£ 362.7	£ 1,700.3	£ 2,063.0	£ 95.6	£ 398.9	£ 494.5
Liabilities (a):						
Cross-currency and interest rate derivative contracts (b)	£ 267.9	£ 421.9	£ 689.8	£ 189.1	£ 734.5	£ 923.6
Foreign currency forward and option contracts	1.1	—	1.1	2.4	—	2.4
Total	£ 269.0	£ 421.9	£ 690.9	£ 191.5	£ 734.5	£ 926.0

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(a) Our current derivative assets, long-term derivative assets, current derivative liabilities and long-term derivative liabilities are included in other current assets, other assets, net, other accrued and current liabilities and other long-term liabilities, respectively, on our consolidated balance sheets.

(b) We consider credit risk relating to our and our counterparties' non-performance in the fair value assessment of our derivative instruments. In all cases, the adjustments take into account offsetting liability or asset positions. The changes in the credit risk valuation adjustments associated with our cross-currency and interest rate derivative contracts resulted in net losses of £112.9 million and £85.8 million during the year ended 31 December 2022 and period from 1 June 2021 to 31 December 2021, respectively. This amount is included in realized and unrealized gains on derivative instruments, net, in our consolidated statements of operations. For additional information regarding our fair value measurements, see note 7.

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

	Year ended 31 December 2022	Period from 1 June 2021 to 31 December 2021
	in millions	
Cross-currency and interest rate derivative contracts	£ 2,190.2	£ 419.4
Foreign currency forward and option contracts	(2.0)	(2.3)
Total	£ 2,188.2	£ 417.1

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 (outflows) of our derivative instruments:

	Year ended 31 December 2022	Period from 1 June 2021 to 31 December 2021
	in millions	
Operating activities	£ 3.4	£ (21.1)
Financing activities	381.2	26.9
Total	£ 384.6	£ 5.8

Counterparty Credit Risk

We are exposed to the risk that the counterparties to our derivative instruments will default on their obligations to us. We manage these credit risks through the evaluation and monitoring of the creditworthiness of, and concentration of risk with, the respective counterparties. In this regard, credit risk associated with our derivative instruments is spread across a relatively broad counterparty base of banks and financial institutions. Collateral is generally not posted by either party under our derivative instruments. At 31 December 2022 and 2021, our exposure to counterparty credit risk included derivative assets with an aggregate fair value of £1,456.6 million and £31.5 million, respectively.

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

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

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

Details of our Derivative Instruments

Cross-currency Derivative Contracts

We generally match the denomination of our 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 31 December 2022, substantially all of our debt was either directly or synthetically matched to the functional currency of the borrowing entity. The following table sets forth the total notional amounts and the related weighted average remaining contractual lives of our cross-currency swap contracts at 31 December 2022:

Notional amount due from counterparty		Notional amount due to counterparty			Weighted average remaining life
	in millions				in years
$	14,624.0	£	11,500.4	(a)	4.4
€	3,100.0	£	2,795.5		6.0
£	1,005.5	$	1,445.0	(b)	2.1
$	500.0	£	394.2		2.5
$	166.6	€	150.0		5.5

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

(b) These derivative instruments 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 pound sterling equivalents of the notional amounts and the related weighted average remaining contractual lives of our interest rate swap contracts at 31 December 2022:

Pay fixed rate (a)			Receive fixed rate		
Notional amount		Weighted average remaining life	Notional amount		Weighted average remaining life
in millions		in years	in millions		in years
£	12,764.3	3.0	£	3,530.8	2.5

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(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 the transaction date, the strike rate of each of these contracts was above the corresponding market rate. As of 31 December 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. At 31 December 2022, the total pound sterling equivalent of the notional amount due from the counterparty, including forward-starting derivative instruments, was £5,130.0 million and the related weighted average remaining contractual life of our basis swap contracts was 0.2 years.

Interest Rate Caps and Floors

From time to time, we enter into interest rate cap and floor agreements. Purchased interest rate caps lock in a maximum interest rate if variable rates rise, but also allow our Company to benefit 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 31 December 2022, the pound sterling equivalent notional amounts of our purchased interest rate caps and floors were £1,552.9 million and £7,268.5 million, respectively.

Impact of Derivative Instruments on Borrowing Costs

Excluding forward-starting instruments and swaptions, the impact of the derivative instruments that mitigate our foreign currency and interest rate risk, was a decrease of 76 basis points and an increase of 73 basis points to our borrowing costs as of 31 December 2022 and 2021, respectively.

GBP LIBOR publication ceased on 31 December 2021. The interest rate on our pound sterling denominated debt going forward will be the Sterling Overnight Index Average (**SONIA**) plus Credit Adjustment Spread (subject to a floor of 0.00% for certain facilities) plus the relevant margin. Through the Fallback Supplement and the Fallback Protocol launched by the International Swaps and Derivatives Association (the **ISDA**) (as further discussed below), this will also be the new reference rate for our GBP LIBOR-indexed derivative instruments.

In October 2020, the ISDA launched the Fallback Supplement, which, as of 25 January 2021, amended the standard definitions for interest rate derivatives to incorporate fallbacks for derivatives linked to certain key interbank offered rates (**IBOR**s). 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.

Foreign Currency Forwards and Options

We enter into foreign currency forward and option contracts with respect to non-functional currency exposure. As of 31 December 2022, the total of the notional amount of our foreign currency forward and option contracts was £322.4 million.

(7) Fair Value Measurements

We use the fair value method to account for our derivative instruments. The reported fair values of these instruments as of 31 December 2022 are unlikely to represent the value that will be paid or received upon the ultimate settlement or disposition of these assets and liabilities.

GAAP provides for a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. Level 1 inputs are quoted market prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 2 inputs are inputs other than quoted market prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability. We record transfers of assets or liabilities into or out of Levels 1, 2 or 3 at the beginning of the quarter during which the transfer occurred.

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.

In order to manage our interest rate and foreign currency exchange risk, we have entered into various derivative instruments, as further described in note 6. The recurring fair value measurements of these instruments are determined using discounted cash flow models. With the exception of the inputs for certain swaptions, 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 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 non-performance risk and the non-performance 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 (other than the valuations of the aforementioned swaptions) fall under Level 2 of the fair value hierarchy. Our credit risk valuation adjustments with respect to our cross-currency and interest rate swaps are quantified and further explained in note 6.

Fair value measurements are also used in connection with non-recurring valuations performed in connection with acquisition accounting, impairment assessments and the accounting for the JV Transaction. These non-recurring valuations primarily include the enterprise value of our Company in connection with the closing of the JV Transaction, intangible assets subject to amortization, including customer relationships and mobile spectrum licenses, property, plant and equipment and the implied value of goodwill. 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. All of our non-recurring valuations, except for third-party debt, as further described below, use significant unobservable inputs and therefore fall under Level 3 of the fair value hierarchy. Upon formation of the Joint Venture, the assets and liabilities of Virgin Media and O2 have been recorded at their fair value, as further described in note 2.

The following list sets forth the primary non-recurring valuations performed related to certain of our assets and liabilities upon closing of the JV Transaction:

- *Enterprise value*. The valuation of our Company (our only reporting unit) is based on discounted cash flow and market approach analyses. With the exception of certain inputs of our weighted average cost of capital and discount rate calculations, the inputs used in our discounted cash flow analyses, such as forecasts of future cash flows, are based on our assumptions. The market approach is performed using comparable trading entity enterprise values, EBITDA (as defined in the Shareholders Agreement) multiples and transaction multiples from comparable transactions. The discount rate used is the weighted average cost of capital, determined by the average cost of equity and debt according to the finance structure established for our asset group. We used a pre-tax discount rate of 6.9% in connection with the enterprise value of our Company;

- *Customer relationships*. 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. The discount rate used is the weighted average cost of capital, determined by the average cost of equity and debt according to the finance structure established for our asset group. We used a pre-tax discount rate of 6.9% in connection with the valuation of our customer relationships;
- *Mobile spectrum licenses*. The valuation of our mobile spectrum licenses is primarily based upon a market approach, which assumes the prices companies would pay for similar assets in market transactions;
- *Tangible assets*. The valuation of our tangible assets is 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; and
- *Third-party debt*. The estimated fair values of our debt instruments are determined using the average of applicable bid and ask prices (mostly Level 1 of the fair value hierarchy).

A summary of our assets and liabilities that are measured at fair value on a recurring basis is as follows:

		Fair value measurements at 31 December 2022 using:			Fair value measurements at 31 December 2021 using:	
Description	**31 December 2022**	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**31 December 2021**	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**
			in millions			
Assets:						
Cross-currency and interest rate derivative contracts	£ 2,058.5	£ 2,058.5	£ —	£ 494.0	£ 494.0	£ —
Foreign currency forward and option contracts	4.5	4.5	—	0.5	0.5	—
Total assets	£ 2,063.0	£ 2,063.0	£ —	£ 494.5	£ 494.5	£ —
Liabilities:						
Cross-currency and interest rate derivative contracts	£ 689.8	£ 689.8	£ —	£ 923.6	£ 919.1	£ 4.5
Foreign currency forward and option contracts	1.1	1.1	—	2.4	2.4	—
Total liabilities	£ 690.9	£ 690.9	£ —	£ 926.0	£ 921.5	£ 4.5

(8) Long-lived Assets

Property, Plant and Equipment, Net

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

	Estimated useful life	31 December 2022	31 December 2021
		in millions	
Plant and machinery	2 to 30 years	£ 8,159.2	£ 7,108.4
Furniture, tools and other items	3 to 11 years	2,268.4	1,600.3
Plant and equipment in progress	N/A	1,190.0	1,021.1
Land and buildings	2 to 50 years	411.0	248.9
Total property, plant and equipment, gross		12,028.6	9,978.7
Accumulated depreciation		(3,455.5)	(1,249.7)
Total property, plant and equipment, net		£ 8,573.1	£ 8,729.0

Depreciation expense related to our property, plant and equipment was £2,371.2 million and £1,279.8 million during the year ended 31 December 2022 and period from 1 June 2021 to 31 December 2021, respectively.

During the year ended 31 December 2022 and period from 1 June 2021 to 31 December 2021, we recorded non-cash increases to our property, plant and equipment related to vendor financing arrangements of £759.9 million and £597.7 million, respectively, which excludes related VAT of £145.6 million and £112.8 million, respectively, that were also financed under these arrangements.

Goodwill

Our goodwill represents the equity of the Joint Venture contributed businesses in excess of the fair value of our net identifiable assets and liabilities. During the fourth quarter of 2022, our company recorded a goodwill impairment of £3,058.0 million in our U.S. GAAP financial statements, primarily related to the challenges within the broader macroeconomic environment, including recent declines in comparable public company market valuations. Given the recency of our company's formation, the fair value of the business has been in close proximity to its carrying value. Our company considered an income approach and a market approach in determining the fair value estimate. The impairment recognized was on the basis of market approach analysis whereby the key inputs used were (i) current earnings multiples of comparable companies available publicly and (ii) a judgmental control premium benchmarked against comparable transactions. The carrying amounts of our goodwill as of 31 December 2022 and 2021 were £17,740.8 million and £20,798.8 million, respectively.

Intangible Assets Subject to Amortization, Net

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

	Estimated useful life	31 December 2022 Gross carrying amount	Accumulated amortization	Net carrying amount
			in millions	
Customer relationships	9 years	£ 7,712.9	£ (1,356.9)	£ 6,356.0
Service concession arrangements and licenses (a)	20 years	1,461.7	(170.7)	1,291.0
Total		£ 9,174.6	£ (1,527.6)	£ 7,647.0

		31 December 2021					
	Estimated useful life	Gross carrying amount		Accumulated amortization		Net carrying amount	
				in millions			
Customer relationships	9 years	£	7,712.9	£	(499.8)	£	7,213.1
Service concession arrangements and licenses (a)	20 years		1,461.7		(78.3)		1,383.4
Total		£	9,174.6	£	(578.1)	£	8,596.5

(a) Primarily related to the mobile spectrum licenses associated with the mobile operations of O2.

Amortization expense related to intangible assets with finite useful lives was £949.5 million and £583.9 million during the year ended 31 December 2022 and period from 1 June 2021 to 31 December 2021, respectively. Based on our amortizable intangible asset balances at 31 December 2022, we expect that amortization expense will be as follows for the next five years and thereafter (in millions):

2023	£	949.5
2024		949.5
2025		949.5
2026		949.5
2027		949.5
Thereafter		2,899.5
Total	£	7,647.0

(9) Investments

The following table reconciles the annual movement in investments, including the details of our share of results of affiliates, net for the year ended 31 December 2022 and the period from 1 June 2021 to 31 December 2021, respectively, as follows:

	CTIL (a)(b)		Tesco Mobile (a)(c)		Total	
			in millions			
1 June 2021	£	740.0	£	8.8	£	748.8
Share of results of affiliates		7.3		0.1		7.4
Other		(17.0)		—		(17.0)
31 December 2021		730.3		8.9		739.2
Dividend		(15.0)		—		(15.0)
Share of results of affiliates		35.2		0.7		35.9
31 December 2022 (d)	£	750.5	£	9.6	£	760.1

(a) Our ownership percentages are determined based on our legal ownership as of the most recent balance sheet date. We own both 50% of CTIL and 50% of Tesco Mobile Limited (**Tesco Mobile**) as of 31 December 2022 and 2021.

(b) Each of VMED O2 and Vodafone Group plc (each a "**CTIL Shareholder**") through their respective subsidiary undertakings hold 50% of the issued share capital of CTIL. The CTIL Shareholders' intend for CTIL to be funded solely from its net cash flow from operations and third-party financing. We account for our 50% interest in CTIL as an equity-method investment. We consider CTIL to be a related party.

(c) As part of the Joint Venture transaction on 1 June 2021, we acquired a 50% interest in Tesco Mobile, a Mobile Virtual Network Operator (**MVNO**), which is accounted for using the equity method in our consolidated financial statements.

(d) The assets associated with our equity-method investments are included within other assets, net, on our consolidated balance sheets.

(10) Debt

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

	31 December 2022		Principal amount 31 December	
	Weighted average interest rate (a)	Unused borrowing capacity (b)	2022	2021
		in millions		
VMED O2 Credit Facilities (c)	6.23 %	£ 2,028.0	£ 6,921.1	£ 5,954.2
VMED O2 Senior Secured Notes	4.51 %	—	8,453.1	7,964.8
VMED O2 Senior Notes	4.54 %	—	1,207.2	1,104.0
Vendor financing (d)	4.10 %	—	2,981.4	2,548.6
Other	1.00 %	—	199.9	1,136.5
Total debt before deferred financing costs, discounts and premiums (e)	5.02 %	£ 2,028.0	£ 19,762.7	£ 18,708.1

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

	31 December	
	2022	2021
	in millions	
Total debt before deferred financing costs, discounts and premiums	£ 19,762.7	£ 18,708.1
Deferred financing costs, discounts and premiums, net	40.0	67.0
Total carrying amount of debt	19,802.7	18,775.1
Finance lease obligations (note 11)	53.9	59.0
Total debt and finance lease obligations	19,856.6	18,834.1
Current portion of debt and finance lease obligations	(3,125.7)	(2,962.6)
Long-term debt and finance lease obligations	£ 16,730.9	£ 15,871.5

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(a) Represents the weighted average interest rate in effect at 31 December 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. For information regarding our derivative instruments, see note 6.

(b) Unused borrowing capacity under the VMED O2 Credit Facilities comprises (i) £1,378.0 million equivalent under the Revolving Facility and (ii) £650.0 million under Term Loan X. Unused borrowing capacity represents the maximum availability under the VMED O2 Credit Facilities at 31 December 2022 without regard to covenant compliance calculations or other conditions precedent to borrowing. At 31 December 2022, based on the most restrictive applicable leverage covenants and leverage-based restricted payment tests £2,028.0 million of unused borrowing capacity was available to be borrowed and there were no restrictions on our ability to make loans or distributions from this availability to other VMED O2 subsidiaries and ultimately to VMED O2 UK Limited. Upon completion of the relevant 31 December

2022 compliance reporting requirements, and based on the most restrictive applicable leverage covenants and leverage-based restricted payment tests, we expect £2,028.0 million of unused borrowing capacity will continue to be available, with no restrictions to loan or distribute. Our above expectations do not consider any actual or potential changes to our borrowing levels or any amounts loaned or distributed subsequent to 31 December 2022, or the impact of additional amounts that may be available to borrow, loan or distribute under certain defined baskets within the VMED O2 Credit Facilities.

(c) As of 31 December 2022 and 2021, principal amounts include £41.0 million and £17.8 million, respectively, of borrowings pursuant to excess cash facilities under the VMED O2 Credit Facilities. These borrowings are owed to certain non-consolidated special purpose financing entities that have issued notes to finance the purchase of receivables due from certain of our subsidiaries to certain other third parties for amounts that we and our subsidiaries have vendor financed. To the extent the proceeds from these notes exceed the amount of vendor financed receivables available to be purchased, the excess proceeds are used to fund these excess cash facilities under our senior credit facilities.

(d) Represents amounts owed to various creditors pursuant to interest-bearing vendor financing arrangements that are used to finance certain of our property, plant and equipment 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) and as such are classified outside of accounts payable as debt on our consolidated balance sheets. 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 the year ended 31 December 2022 and period from 1 June 2021 to 31 December 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 was £2,315.3 million and £882.6 million, respectively. Repayments of vendor financing obligations are included in repayments and repurchases of third-party debt and finance lease obligations in our consolidated statements of cash flows.

(e) As of 31 December 2022 and 2021, our debt had an estimated fair value of £17.8 billion and £18.8 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 7.

General Information

Credit Facilities. We have entered into a senior secured credit facility agreement with certain financial and other institutions and senior credit facility agreements with certain non-consolidated special purpose financing entities (as described under *VMED O2 Credit Facilities* below) (the “**credit facilities**”). Certain of our credit facilities provide for adjustments to our borrowing rates based on the achievement, or otherwise, of certain sustainability-linked metrics. Our credit facilities contain certain covenants, the more notable of which are as follows:

- Our credit facilities contain certain consolidated net leverage ratios, as specified in the relevant credit facility, which are required to be complied with (i) on an incurrence basis and/or (ii) in respect of our senior secured credit facilities, when the associated revolving credit facilities have been drawn, on a net basis, 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, amongst other things, restrict the ability of certain of our subsidiaries to (i) incur or guarantee certain financial indebtedness, (ii) make certain disposals and acquisitions, (iii) create certain security interests over their assets and (iv) make certain restricted payments to their direct and/or indirect parent companies through dividends, loans or other distributions;

- Our credit facilities require that certain of our subsidiaries (i) guarantee the payment of all sums payable under the relevant credit facility and (ii) in respect of our senior secured credit facilities, grant first-ranking security over substantially all of their assets to secure the payment of all sums payable thereunder;

- In addition to certain mandatory prepayment events, the instructing group of lenders under our senior secured credit facilities, under certain circumstances, may cancel the lenders' 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 senior secured credit facilities);

- In addition to certain mandatory prepayment events, the individual lender under each of our senior credit facilities, under certain circumstances, may cancel its commitments thereunder and declare the loan(s) thereunder due and payable at a price of 101% after the applicable notice period following the occurrence of a change of control (as specified in the relevant senior 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 that we observe certain affirmative and negative undertakings and covenants, which are subject to certain materiality qualifications and other customary and agreed exceptions;

- In addition to customary default provisions, our senior secured credit facilities include cross-default provisions with respect to the other indebtedness of certain of our subsidiaries, subject to agreed minimum thresholds and other customary and agreed exceptions; and

- Our senior credit facilities provide that any failure to pay principal at its stated maturity (after the expiration of any applicable grace period) of, or any acceleration with respect to, other indebtedness of the borrower or certain subsidiaries over agreed minimum thresholds (as specified under the applicable senior credit facility), is an event of default under the respective senior credit facility.

SPE Notes. From time to time, we create special purpose financing entities (**SPEs**). These SPEs are created for the primary purpose of facilitating the offering of senior secured notes, which we collectively refer to as the "**SPE Notes**".

The SPEs use the proceeds from the issuance of the SPE Notes to fund term loan facilities under the credit facilities, 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. The SPEs are consolidated by VMED O2. As a result, the amounts outstanding under the Funded Facilities of the SPEs are eliminated in the consolidated financial statements of VMED O2.

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. Each SPE Note, as the lender under the relevant Funded Facility, is treated the same as the other lenders under the credit facilities, 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 SPE as lender 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.

Senior and Senior Secured Notes. Virgin Media Finance plc, VMED O2 UK Financing I plc (**VMED O2 Financing I**) and Virgin Media Secured Finance plc (**Virgin Media Secured Finance**), each a wholly-owned subsidiary of VMED O2, have issued certain senior and senior secured notes, respectively. In general, our senior and senior secured notes (i) are senior obligations of the issuer of such notes that rank equally with all of the existing and future senior debt of such issuer and are senior to all existing and future subordinated debt of such issuer, (ii) contain, in most instances, certain guarantees from certain of our subsidiaries (as specified in the applicable indenture) and (iii) with respect to our senior secured notes, are secured by certain pledges or liens over substantially all of the assets of certain of our subsidiaries. In addition, the indentures governing our senior and senior secured notes contain certain covenants, the more notable of which are as follows:

- Our notes provide that any failure to pay principal at its stated maturity (after the expiration of 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 materiality qualifications and other customary and agreed exceptions, our notes contain (i) certain customary incurrence-based covenants and (ii) certain restrictions that, amongst other things, restrict our ability to (a) incur or guarantee certain financial indebtedness, (b) make certain disposals and acquisitions, (c) create certain security interests over our assets and (d) make certain restricted payments to our direct and/or indirect parent companies through dividends, loans or other distributions;

- If certain of our subsidiaries (as specified in the applicable indenture) sell certain assets, the issuer must, subject to certain materiality qualifications and other customary and agreed exceptions, offer to repurchase the applicable notes at par, or if a change of control (as specified in the applicable indenture) occurs, the issuer must offer to repurchase all of the relevant notes at a redemption price of 101%; and

- Our senior secured notes contain certain early redemption provisions including the ability to, during each 12-month period commencing on the issue date for such notes until the applicable call date (**Call Date**), redeem up to 10% of the original principal amount of the notes at a redemption price equal to 103% of the principal amount of the notes to be redeemed plus accrued and unpaid interest.

VMED O2 Notes

The details of the outstanding notes of VMED O2 as of 31 December 2022 are summarized in the following table:

VMED O2 Notes	Maturity	Interest rate	Original issue amount		Outstanding principal amount: Borrowing currency		Outstanding principal amount: Pound sterling equivalent		Carrying value (a)	
					in millions					
Senior Notes:										
2030 Dollar Senior Notes	15 July 2030	5.00%	$	925.0	$	925.0	£	764.6	£	763.4
2030 Euro Senior Notes	15 July 2030	3.75%	€	500.0	€	500.0		442.6		443.2
Total Senior Notes								1,207.2		1,206.6
Senior Secured Notes:										
2027 Sterling Senior Secured Notes	15 April 2027	5.00%	£	675.0	£	675.0		675.0		696.5
2029 4.0% Sterling Senior Secured Notes (b)	31 January 2029	4.00%	£	600.0	£	600.0		600.0		596.7
2029 Dollar Senior Secured Notes	15 May 2029	5.50%	$	1,425.0	$	1,425.0		1,177.8		1,247.5
2029 5.25% Sterling Senior Secured Notes	15 May 2029	5.25%	£	340.0	£	340.0		340.0		356.8
2030 4.25% Sterling Senior Secured Notes	15 January 2030	4.25%	£	635.0	£	635.0		635.0		635.9
2030 Dollar Senior Secured Notes	15 August 2030	4.50%	$	915.0	$	915.0		756.3		757.6
2030 4.125% Sterling Senior Secured Notes	15 August 2030	4.13%	£	480.0	£	480.0		480.0		478.8
2031 Euro Senior Secured Notes (b)	31 January 2031	3.25%	€	950.0	€	950.0		841.0		848.1
2031 4.25% Dollar Senior Secured Notes (b)	31 January 2031	4.25%	$	1,350.0	$	1,350.0		1,115.8		1,091.2
2031 4.75% Dollar Senior Secured Notes (b)(c)	15 July 2031	4.75%	$	1,400.0	$	1,400.0		1,157.2		1,153.8
2031 Sterling Senior Secured Notes (b)(c)	15 July 2031	4.50%	£	675.0	£	675.0		675.0		671.8
Total Senior Secured Notes								8,453.1		8,534.7
Total							£	9,660.3	£	9,741.3

(a) Amounts are net of deferred financing costs, discounts and premiums, including amounts recorded in connection with the acquisition accounting for VMED O2, where applicable.

(b) Respective Senior Secured Notes are SPE Notes that have been issued by VMED O2 Financing I Company.

(c) Respective Senior Secured Notes are VMED O2 Green Bonds that have been issued by VMED O2 Financing I Company under the International Capital Markets Association’s Green Bond Principles as “green” assets to investors.

The VMED O2 Notes are non-callable prior to the applicable Call Dates as presented in the below table. At any time prior to the respective Call Date, VMED O2 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 specified in the applicable indenture) as of the redemption date plus 50 basis points.

VMED O2 Notes	Call Date
2030 Dollar Senior Notes	15 July 2025
2030 Euro Senior Notes	15 July 2025
2027 Sterling Senior Secured Notes	15 April 2022
2029 4.0% Sterling Senior Secured Notes	31 January 2024
2029 Dollar Senior Secured Notes	15 May 2024
2029 5.25% Sterling Senior Secured Notes	15 May 2024
2030 4.25% Sterling Senior Secured Notes	15 October 2024
2030 Dollar Senior Secured Notes	15 August 2025
2030 4.125% Sterling Senior Secured Notes	15 August 2025
2031 Euro Senior Secured Notes	31 January 2026
2031 4.250% Dollar Senior Secured Notes	31 January 2026
2031 4.750% Dollar Senior Secured Notes	15 July 2026
2031 Sterling Senior Secured Notes	15 July 2026

VMED O2 may redeem some or all of the VMED O2 Senior Notes and the VMED O2 Senior Secured Notes at the following redemption prices (expressed as a percentage of the principal amount) plus accrued and unpaid interest and additional amounts (as specified in the applicable indenture), if any, to the applicable redemption date, as set forth below:

	Redemption Price					
	2030 Dollar Senior Notes	2030 Euro Senior Notes	2027 Sterling Senior Secured Notes	2029 4.0% Sterling Senior Secured Notes	2029 Dollar Senior Secured Notes	2029 5.25% Sterling Senior Secured Notes
12-month period commencing	15 July	15 July	15 April	31 January	15 May	15 May
2023	N.A.	N.A.	101.250%	N.A.	N.A.	N.A.
2024	N.A.	N.A.	100.625%	102.000%	102.750%	102.625%
2025	102.500%	101.875%	100.000%	101.000%	101.375%	101.313%
2026	101.250%	100.938%	100.000%	100.000%	100.000%	100.000%
2027	100.625%	100.469%	N.A.	100.000%	100.000%	100.000%
2028 and thereafter	100.000%	100.000%	N.A.	100.000%	100.000%	100.000%

	Redemption Price						
	2030 4.25% Sterling Senior Secured Notes	2030 Dollar Senior Secured Notes	2030 4.125% Sterling Senior Secured Notes	2031 Euro Senior Secured Notes	2031 4.250% Dollar Senior Secured Notes	2031 4.750% Dollar Senior Secured Notes	2031 Sterling Senior Secured Notes
12-month period commencing	15 October	15 August	15 August	31 January	31 January	15 July	15 July
2024	102.125%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2025	101.063%	102.250%	102.063%	N.A.	N.A.	N.A.	N.A.
2026	100.531%	101.125%	101.031%	101.625%	102.125%	102.375%	102.250%
2027	100.000%	100.563%	100.516%	100.813%	101.063%	101.188%	101.125%
2028	100.000%	100.000%	100.000%	100.406%	100.530%	100.594%	100.563%
2029 and thereafter	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%

VMED O2 Credit Facilities

The VMED O2 Credit Facilities are the senior and senior secured credit facilities of certain subsidiaries of VMED O2. The details of our borrowings under the VMED O2 Credit Facilities as of 31 December 2022 are summarized in the following table:

VMO2 Credit Facilities	Maturity	Interest rate	Facility amount (in borrowing currency)	Outstanding principal amount	Unused borrowing capacity	Carrying value (a)
				in millions		
Senior Secured Facilities:						
L (b)	15 January 2027	SONIA+3.25%	£ 400.0	£ 400.0	£ —	£ 396.9
M (b)	15 November 2027	SONIA+3.25%	£ 500.0	500.0	—	496.0
N (c)	31 January 2028	LIBOR+2.50%	£ 3,300.0	2,727.6	—	2,716.9
O (d)	31 January 2029	EURIBOR+2.50%	£ 750.0	664.0	—	661.3
P	31 January 2026	SONIA+2.75%	£ —	—	—	—
Q (c)	31 January 2029	LIBOR +3.25%	$ 1,300.0	1,074.5	—	1,075.1
R (d)	31 January 2029	EURIBOR+3.25%	€ 750.0	664.0	—	664.9
S (g)	31 January 2029	4.00%	£ 600.0	600.0	—	596.7
T (g)	31 January 2031	3.25%	€ 950.0	841.0	—	848.1
U (g)	31 January 2031	4.25%	$ 1,350.0	1,115.8	—	1,091.2
V (g)	15 July 2031	4.50%	£ 675.0	675.0	—	671.8
W (g)	15 July 2031	4.75%	$ 1,400.0	1,157.2	—	1,153.8
X (b)	30 September 2027	SONIA+3.25%	£ 850.0	850.0	650.0	829.4
Revolving Facility (e)	31 January 2026	SONIA+2.75%	£ 1,378.0	—	1,378.0	—
Elimination of Facilities S, T, U, V and W in consolidation (g)				(4,389.0)	—	(4,361.6)
Total Senior Secured Facilities				6,880.1	2,028.0	6,840.5
Senior Facilities:						
Financing Facility III (f)	15 July 2028	4.875%	£ 900.0	28.9	—	27.5
Financing Facility IV (f)	15 July 2028	5.000%	$ 500.0	12.1	—	12.1
Total Senior Facilities				41.0	—	39.6
Total				£ 6,921.1	£ 2,028.0	£ 6,880.1

(a) Amounts are net of deferred financing costs and discounts, where applicable.

(b) Facility L, Facility M and Facility X are each subject to a SONIA floor of 0.0%.

(c) Facility N and Facility Q are each subject to a USD LIBOR floor of 0.0%.

(d) Facility O and Facility R are each subject to a EURIBOR floor of 0.0%.

(e) The Revolving Facility has a fee on unused commitments of 1.1% per year.

(f) Amounts represent borrowings that are owed to certain non-consolidated special purpose financing entities that have issued notes to finance the purchase of receivables due from certain of our subsidiaries to certain other third parties for amounts that we and our subsidiaries have vendor financed. To the extent the proceeds from these notes exceed the amount of vendor financed receivables available to be purchased, the excess proceeds are used to fund these excess cash facilities under our senior credit facilities.

(g) The amounts outstanding under Facilities S through W are eliminated in our consolidated financial statements.

Financing Transactions

Below we provide summary descriptions of certain financing transactions completed during 2022. In general, a portion of our financing transactions may include non-cash borrowings and repayments. During the year ended 31 December 2022 and period from 1 June 2021 to 31 December 2021, our non-cash borrowings and repayments aggregated £376.0 million and nil, respectively.

In January 2022, we utilised the Revolving Facility twice, in an aggregate amount of £400.0 million, to meet working capital requirements. These utilisations were subsequently repaid in full in March 2022.

In August 2022, we entered into a £1,500.0 million term loan facility (**Term Loan X**), which comprises four tranches, (Facilities X1, X2, X3 and X4) comprising £1,124.0 million of new money and £376.0 million of rolling commitments from our existing Term Loan P facility. Term Loan X matures on 30 September 2027 and bears interest at a rate of SONIA+3.25% (subject to adjustment based on the achievement or otherwise of certain Environmental, Social and Governance (**ESG**) metrics). On 21 December 2022, Term Loan X was partially drawn down. Facility X1, comprising £474.0 million of new money, was issued at 99% of par and used to partially fund the Q4 dividend. Facility X4, comprising £376.0 million of rolling commitments, was utilized as part of the non-cash repayment of Term Loan P. The remaining proceeds from the loan are expected to primarily be used for general corporate purposes.

Maturities of Debt

The pound sterling equivalents of the maturities of our debt as of 31 December 2022 are presented below (in millions):

Year ending 31 December:		
2023	£	3,121.6
2024		45.1
2025		27.9
2026		15.6
2027		2,430.7
Thereafter		14,121.8
Total debt maturities (a)		19,762.7
Deferred financing costs, discounts and premiums, net		40.0
Total debt	£	19,802.7
Current portion	£	3,121.6
Long-term portion	£	16,681.1

(a) Third-party amounts include vendor financing obligations of £2,981.4 million, as set forth below (in millions):

Year ending 31 December:		
2023	£	2,888.2
2024		45.1
2025		27.9
2026		15.6
2027		4.6
Total vendor financing maturities (1)	£	2,981.4
Current portion	£	2,888.2
Long-term portion	£	93.2

(1) Virgin Media Vendor Financing Notes III Designated Activity Company and Virgin Media Vendor Financing Notes IV Designated Activity Company (together the **2020 VM Financing Companies**) have issued an aggregate £1,313.3 million equivalent of notes maturing in July 2028. The net proceeds from these notes are used by the 2020 VM Financing Companies to purchase from various third parties certain vendor financed receivables owed by certain of our subsidiaries. To the extent the proceeds from these notes exceed the amount of vendor financed receivables available to be purchased, the excess proceeds are used to fund excess cash facilities under our senior credit facilities. The 2020 VM Financing Companies can request the excess cash facilities be repaid by certain of our subsidiaries as additional vendor financed receivables become available for purchase.

(11) Leases

General

We enter into operating and finance leases for network equipment, real estate and vehicles. We provide residual value guarantees on certain of our vehicle leases.

Lease Balances

A summary of our ROU assets and lease liabilities are set forth below:

	31 December	
	2022	2021
	in millions	
ROU assets:		
Operating leases (a)	£ 506.9	£ 575.5
Finance leases (b)	45.4	48.0
Total ROU assets	£ 552.3	£ 623.5
Lease liabilities:		
Operating leases (c)	£ 520.3	£ 583.4
Finance leases (d)	53.9	59.0
Total lease liabilities	£ 574.2	£ 642.4

(a) Our operating lease ROU assets are included in other assets, net, on our consolidated balance sheets. At 31 December 2022 and 2021, the weighted average remaining lease term for operating leases was 8.2 and 5.6 years, respectively, and the weighted average discount rate was 5.2% and 4.9%, respectively. During the year ended 31 December 2022 and period from 1 June 2021 to 31 December 2021, we recorded non-cash additions to our operating lease ROU assets of £22.4 million and £30.8 million, respectively.

(b) Our finance lease ROU assets are included in property, plant and equipment, net, on our consolidated balance sheets. At 31 December 2022 and 2021, the weighted average remaining lease term for finance leases was 35.6 and 31.2 years, respectively, and the weighted average discount rate was 7.1% and 7.0%, respectively. During the year ended 31 December 2022 and the period from 1 June 2021 to 31 December 2021, we recorded non-cash additions to our finance lease ROU assets of £77.9 million and £42.9 million, respectively.

(c) The current and long-term portions of our operating lease liabilities are included within other accrued and current liabilities and other long-term liabilities, respectively, on our consolidated balance sheets.

(d) The current and long-term portions of our finance lease liabilities are included within current portion of debt and finance lease obligations and long-term debt and finance lease obligations, respectively, on our consolidated balance sheets.

A summary of our aggregate lease expense for the is set forth below:

	Year ended 31 December 2022	Period from 1 June 2021 to 31 December 2021
	in millions	
Finance lease expense:		
Depreciation and amortization	£ 3.3	£ 0.8
Interest expense	3.8	1.0
Total finance lease expense	7.1	1.8
Operating lease expense (a)	189.3	73.2
Total lease expense	£ 196.4	£ 75.0

(a) Our operating lease expense is included in other operating expenses and SG&A expenses in our consolidated statements of operations.

A summary of our cash outflows from operating and finance leases for is set forth below:

	Year ended 31 December 2022	Period from 1 June 2021 to 31 December 2021
	in millions	
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash outflows from operating leases	£ 139.1	£ 63.8
Operating cash outflows from finance leases (interest component)	3.8	1.0
Financing cash outflows from finance leases (principal component)	5.9	1.0
Total cash outflows from operating and finance leases	£ 148.8	£ 65.8

Maturities of our operating and finance lease liabilities as of 31 December 2022 are presented below. Amounts represent the pound sterling equivalents based on 31 December 2022 exchange rates:

	Operating leases	Finance leases
	in millions	
Year ending 31 December:		
2023	£ 150.8	£ 7.7
2024	110.0	3.7
2025	75.7	3.6
2026	58.8	3.7
2027	45.5	3.7
Thereafter	223.8	129.5
Total payments	664.6	151.9
Less: present value discount	(144.3)	(98.0)
Present value of lease payments	£ 520.3	£ 53.9
Current portion	£ 129.7	£ 4.1
Long-term portion	£ 390.6	£ 49.8

(12) Income Taxes

VMED O2 files its primary income tax return in the U.K. and our subsidiaries file income tax returns in the U.K. and the U.S.

The components of our loss before income taxes are as follows:

	Year ended 31 December 2022	Period from 1 June 2021 to 31 December 2021
	in millions	
U.K.	£ 2,412.5	£ 247.7
U.S.	22.6	9.2
Total	£ 2,435.1	£ 256.9

Income tax (expense) benefit consists of:

	Current	Deferred	Total
		in millions	
Year ended 31 December 2022			
U.K.	£ 12.4	£ (66.7)	£ (54.3)
U.S. (a)	30.9	(0.2)	30.7
Total	£ 43.3	£ (66.9)	£ (23.6)
Period from 1 June 2021 to 31 December 2021:			
U.K.	£ 47.3	£ 83.7	£ 131.0
U.S. (a)	4.6	(5.2)	(0.6)
Total	£ 51.9	£ 78.5	£ 130.4

(a) Includes U.S. federal and state income taxes. Our U.S. state income taxes were not material during any of the years presented.

Income tax (expense) benefit attributable to our loss before income taxes differs from the amounts computed using the U.K. corporate income tax rate of 19.0%, the jurisdiction of tax domicile of our Company, as a result of the following factors:

	Year ended 31 December 2022	Period from 1 June 2021 to 31 December 2021
	in millions	
Computed "expected" tax benefit	£ 462.7	£ 48.8
Non-deductible goodwill impairment	(581.0)	—
Tax benefit associated with U.K. super-deduction (a)	140.2	—
Enacted tax law and rate changes (b)	(58.1)	76.8
Recognition of previously unrecognized tax benefits	51.2	19.0
Non-deductible interest and other expenses	(19.4)	(0.2)
Basis and other differences in the treatment of items associated with investments in subsidiaries (c)	(15.9)	(14.5)
Other, net	(3.3)	0.5
Total income tax (expense) benefit	£ (23.6)	£ 130.4

(a) Amount reflects the current and prior year impact of the U.K. "super-deduction" enacted in Finance Bill 2021, which provides a permanent tax benefit through an increased deduction for the cost of qualifying capital expenditures.

(b) On 10 June 2021, Finance Bill 2021 was enacted, increasing the U.K. corporate income tax rate from 19.0% to 25.0% from 1 April 2023. The effect of the increased tax rate on our deferred tax balances is reflected on our consolidated balance sheet at 31 December 2022.

(c) This amount reflects the net impact of differences in the treatment of income and loss items between financial reporting and tax accounting related to investments in subsidiaries and affiliates including the effects of undistributed earnings.

The components of our net deferred tax assets are as follows:

	31 December 2022	31 December 2021
	in millions	
Deferred tax assets (a)	£ 144.2	£ 148.8
Deferred tax liabilities (a)	(1.0)	(7.4)
Net deferred tax asset	£ 143.2	£ 141.4

(a) Our deferred tax assets and deferred tax liabilities are included within other assets, net, and other long-term liabilities on our consolidated balance sheets.

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

	31 December 2022	31 December 2021
	in millions	
Deferred tax assets:		
Capital and net operating loss carryforwards	£ 3,250.5	£ 3,243.9
Property, plant and equipment, net	1,722.1	1,628.7
Derivative instruments	—	91.2
Other future deductible amounts	150.0	116.0
Deferred tax assets	5,122.6	5,079.8
Valuation allowance	(3,105.7)	(3,075.8)
Deferred tax assets, net of valuation allowance	2,016.9	2,004.0
Deferred tax liabilities:		
Intangible assets	(1,590.5)	(1,757.5)
Derivative instruments	(185.0)	—
Other future taxable amounts	(98.2)	(105.1)
Deferred tax liabilities	(1,873.7)	(1,862.6)
Net deferred tax asset	£ 143.2	£ 141.4

Our deferred tax asset valuation allowance increased by £29.9 million and £744.8 million during the year ended 31 December 2022 and period from 1 June 2021 to 31 December 2021, respectively. These increases primarily reflect the effects of amounts allocated to other comprehensive income for U.S. deferred tax assets and the net effect of the enacted tax rate change in the U.K.

We had property, plant and equipment on which future U.K. tax deductions can be claimed of £17.0 billion and £15.0 billion at 31 December 2022 and 2021, respectively. The maximum amount of these “capital allowances” that can be claimed in any one year is approximately 18% of the remaining balance, after additions, disposals and prior claims. The tax effects of the excess of these capital allowances over the related financial reporting bases are included in the 2022 deferred tax assets related to property, plant and equipment, net, in the above table.

As of 31 December 2022 and 2021, our operating loss carryforwards were £13.3 billion and £13.0 billion, respectively, and carryforward indefinitely, including U.K. capital loss carryforwards of £12.1 billion at both year ends. The use of our operating loss carryforwards (both capital and ordinary losses) is limited. Certain tax jurisdictions limit the ability to offset taxable income of a separate company or different tax group with the tax losses associated with another separate company or group. The majority of our operating loss carryforwards are not expected to be realized.

We have taxable outside basis differences on certain investments in subsidiaries. No additional income taxes have been provided for unremitted earnings, or any additional outside basis differences inherent in these entities, because we expect that any recovery will be done in a tax free manner.

We and our subsidiaries file consolidated and standalone income tax returns in the U.K. and U.S. In the normal course of business, our income tax filings are subject to review by the U.K. and U.S. 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 these jurisdictions. Such disputes may result in future income tax and interest and penalty assessments by these taxing authorities. 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.

In general, income tax returns filed by VMED O2 or our subsidiaries for years prior to 2019 are no longer subject to examination by taxing authorities.

The changes in our unrecognized tax benefits are summarized below (in millions):

Balance at 1 June 2021	£	80.4
Lapse of statute of limitations		(19.0)
Foreign currency translation		1.9
Reductions for tax positions of prior years		(0.5)
Additions based on tax positions related to the current year		0.3
Balance at 31 December 2021		63.1
Lapse of statute of limitations		(51.2)
Additions for tax positions of prior years		20.3
Reductions for tax positions of prior years		(20.2)
Foreign currency translation		8.5
Balance at 31 December 2022	£	20.5

No assurance can be given that any of these tax benefits will be recognized or realized.

As of 31 December 2022 and 2021, all of our unrecognized tax benefits would have a favourable impact on our effective income tax rate, if ultimately recognized.

During 2023, it is reasonably possible that the expiration of certain statutes of limitation could result in reductions to our unrecognized tax benefits related to tax positions taken prior to 31 December 2022. The amount of any such reductions could range up to £16.0 million, all of which would have a positive impact on our effective tax rate. Other than the potential impacts of the expected expiration of certain statutes of limitation, we do not expect any material changes to our unrecognized tax benefits during 2023. No assurance can be given as to the nature or impact of any changes in our unrecognized tax benefits during 2023.

On 16 August 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 15.0% corporate alternative minimum tax on "adjusted financial statement income" that is effective for tax years beginning after 31 December 2022. We currently believe these rules are not likely to be applicable to our Company, although we will continue to monitor additional guidance as it is issued to assess the impact to our tax position.

(13) Share Capital

As of 31 December 2022 and 2021 VMED O2 has 12 ordinary shares outstanding, each with a nominal value of £1.00.

During the year ended 31 December 2022 and period from 1 June 2021 to 31 December 2021, VMED O2 paid total dividends of £1,600.0 million and £322.0 million, respectively, to its Shareholders, which are reflected as decreases to owners' equity in our consolidated statements of owners' equity.

(14) Share-based Compensation

Our share-based compensation expense relates to (i) charges for share-based incentive awards associated with ordinary shares of Liberty Global and Telefónica held by certain employees of our subsidiaries and (ii) charges for incentive awards associated with the performance of the VMED O2, under the VMED O2's long term incentive plan, held by certain employees of our subsidiaries.

All the outstanding share-based incentive awards from Liberty Global and Telefónica will vest by the end of 2024. Share-based compensation expense allocated to our Company by Liberty Global and Telefónica is reflected as an increase to consolidated equity, offset by any amounts recharged to us, and is included within other expenses in our consolidated statements of operations.

All the outstanding incentive awards for the VMED O2's long term incentive plan will vest by the end of 2025. The associated expense is included within other expenses in our consolidated statements of operations.

(15) Related-party Transactions

Our related-party transactions are as follows:

	Year ended 31 December 2022	Period from 1 June 2021 to 31 December 2021
	in millions	
Credits (charges) included in:		
Revenue	£ 291.1	£ 148.0
Programming and other direct costs of services	(2.7)	(0.6)
Other operating	(198.5)	(151.0)
SG&A	(385.9)	(204.9)
Allocated share-based compensation expense	(25.6)	(23.4)
Included in operating income	(321.6)	(231.9)
Interest expense	—	1.4
Interest income	—	1.6
Included in net loss	£ (321.6)	£ (228.9)
Property, plant and equipment additions, net	£ 3.6	£ 2.6

Revenue. Amounts primarily represent our charges to the Tesco Mobile joint venture, and to a lesser extent, insurance and roaming charges to Telefónica.

Programming and other direct costs of services. Amounts primarily consist of interconnect, roaming, lease and access fees and other services provided to our Company by other Liberty Global and Telefónica subsidiaries.

Other operating expenses. Amounts primarily consist of recharges for network and technology services provided to our Company by CTIL.

SG&A expenses. Amounts consist of (i) charges of £266.7 million and £154.9 million during 2022 and 2021, respectively, primarily related to support function staffing and other services provided to our Company by Liberty Global and Telefónica, (ii) charges of £23.6 million and £12.8 million during 2022 and 2021, respectively, for network and technology services provided to our Company by Liberty Global and Telefónica and (iii) charges of £27.1 million and £15.4 million during 2022 and 2021, respectively, for brand and licensing fees payable to Telefónica.

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

Interest expense. Amounts represent interest expense on long-term related-party lease obligations.

Interest income. Amounts represent interest income on long-term related-party receivables, as further described below.

Charges for JV Services - Framework Services Agreements. Pursuant to the framework services agreements (collectively, the **JV Service Agreements**) entered into in connection with the closing of the JV Transaction, Liberty Global and Telefónica charge VMED O2 UK Limited fees, for certain services provided to us by the respective subsidiaries of the Shareholders (collectively, the **JV Services**). The JV Services are provided to us on a transitional or ongoing basis. Pursuant to the terms of the JV Service Agreements, both the ongoing services and transitional services are provided for specified terms from the 1 June 2021 formation of the Joint Venture. Ongoing services are predominantly for six-year terms whereas transitional services will be provided for terms up to 24 months, subject to our ability to terminate based on specified notice periods. The JV Services provided by the respective subsidiaries of the Shareholders consist primarily of (i) technology and other services, (ii) capital-related expenditures for assets that we use or otherwise benefit us, (iii) brand name and procurement fees and (iv) certain corporate services. The fees that Liberty Global and Telefónica charge us for the JV Services, as set forth in the table above, include both fixed and usage-based fees.

Property, plant and equipment additions, net. Amounts, which are generally cash settled, represent licenses for software owned by the Shareholders.

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

	31 December	
	2022	2021
	in millions	
Assets:		
Trade receivables (a)	£ 97.3	£ 24.0
Current receivables (b)	4.5	410.6
Other assets (c)	112.7	158.1
Total	£ 214.5	£ 592.7
Liabilities:		
Accounts payable	£ 263.5	£ 226.4
Other current liabilities (d)	57.9	47.7
Other long-term liabilities (e)	208.1	201.8
Total	£ 529.5	£ 475.9

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(a) Amounts primarily relate to trade receivables arising from our charges to Tesco Mobile, Telefónica subsidiaries, CTIL and accrued income owed from nexfibre.

(b) Amounts represent non-interest bearing current receivables from certain Liberty Global and Telefónica subsidiaries arising in the normal course of business. In 2021 only, amount represents an interest bearing note receivable from CTIL that is owed to VMED O2 with an interest rate of LIBOR plus 1.30% that was entered into during the period from 1 June 2021 to 31 December 2021. This loan was settled in full during 2022.

(c) Amounts relate to ROU assets which are leased from CTIL to VMED O2.

(d) Amounts represent the current lease liability with regards to leased assets from CTIL to VMED O2 and certain tax-related liabilities owed to other Telefónica subsidiaries.

(e) Amounts primarily represent the non-current lease liability with regards to leased assets from CTIL to VMED O2 and non-interest bearing payables, including (i) pension liabilities owed to other Telefónica subsidiaries and (ii) a payable owed to CTIL related to certain asset retirement obligations.

Shareholders Agreement

In connection with the JV Transaction, on 1 June 2021, Telefónica and Liberty Global entered into a shareholders agreement (the **Shareholders Agreement)**. Each Shareholder holds 50% of the issued share capital of VMED O2. The Shareholders Agreement contains customary provisions for the governance of a 50:50 joint venture that result in Telefónica and Liberty Global having joint control over decision making with respect to the Joint Venture and each Shareholder has the right to initiate an initial public offering after the third anniversary of the closing.

The Shareholders Agreement also provides (i) for a dividend policy that requires VMED O2, subject to certain exceptions, to distribute all unrestricted cash to the Shareholders as soon as reasonably practicable following each quarterly period (subject to our Company maintaining a minimum amount of cash and complying with the terms of our financing arrangements) and (ii) that VMED O2 will be managed with a leverage ratio between 4.0 and 5.0 times EBITDA (as defined in the Shareholders Agreement), including the completion of periodic recapitalisations and/or refinancings.

(16) Restructuring Liabilities

A summary of changes in our restructuring liabilities during the year ended 31 December 2022 and period from 1 June 2021 to 31 December 2021 is set forth in the table below:

	Employee severance and termination	Office closures	Total
		in millions	
Balance at 1 June 2021	£ 2.4	£ 1.9	£ 4.3
Restructuring charges (a)	43.2	—	43.2
Cash paid	(24.3)	(0.6)	(24.9)
Other	(0.4)	—	(0.4)
Balance at 31 December 2021	20.9	1.3	22.2
Restructuring charges (a)	49.3	—	49.3
Cash paid	(28.2)	—	(28.2)
Other	(1.0)	(1.3)	(2.3)
Balance at 31 December 2022	£ 41.0	£ —	£ 41.0
Current portion	£ 26.0	£ —	£ 26.0
Long-term portion	15.0	—	15.0
Total	£ 41.0	£ —	£ 41.0

(a) Our restructuring charges include the full cost of planned business restructuring programmes entered into as a result of the JV Transaction. All 2021 restructuring costs associated with the JV Transaction were paid during 2022 and provisions incurred throughout 2022 are expected to be paid throughout 2023 and 2024.

(17) Defined Benefit Plans

VMED O2 maintains the following defined benefit and defined contribution plans for its employees:

Defined Benefit Plans:

- The defined benefit section of the Telefónica U.K. Pension Plan;
- The National Transcommunications Limited Pension Plan (**NTL**);
- The NTL 1999 Pension Scheme (**NTL 99**);
- Unfunded pension promises to former Telefónica U.K. employees; and
- Unfunded pension promises to former NTL employees, known as the Annual Compensation Payments (**ACP**) Plan.

Defined Contribution Plans:

- The Telefónica U.K. Pension Scheme;
- The Virgin Media Pension Plan; and
- The defined contribution section of the Telefónica U.K. Pension Plan.

As of the 1 June 2021 formation of VMED O2, all of the defined benefit plans are closed to new entrants and further benefit accrual. The Telefónica U.K. Pension Scheme and the Virgin Media Pension Plan remain open to new entrants and further contributions and the employer contributions are recognized as part of our staffing costs.

A valuation of our defined benefit plans was undertaken as of 31 December 2022 by suitably qualified independent actuaries. Our defined benefit plan assets are currently invested in a diversified range of debt securities, equity securities, hedge funds, insurance contracts and certain other assets, which are aligned to the liability characteristics of the respective plans.

The table below provides summary information of our defined benefit plans:

	31 December 2022	31 December 2021
	in millions	
Fair value of plan assets	£ 1,824.4	£ 2,720.1
Projected benefit obligation	1,468.5	2,355.6
Net asset (a)	£ 355.9	£ 364.5

(a) Amounts include net obligations of £4.3 million and £4.5 million at 31 December 2022 and 2021, respectively, related to projected benefit obligations of an unfunded scheme.

Changes in the present value of the projected benefit obligations associated with our various funded and unfunded defined benefit plans for the indicated periods are set forth below (in millions):

Balance at 1 June 2021	£	2,268.8
Interest costs		24.9
Benefits paid		(38.3)
Actuarial gain		100.2
Balance at 31 December 2021		2,355.6
Reclassification of ACP Plan		1.1
Interest costs		42.2
Benefits paid		(76.3)
Actuarial loss		(854.1)
Balance at 31 December 2022	£	1,468.5

All census data from the most recent triennial valuations has been reflected within the calculation of projected benefit obligations disclosed above.

Changes in the fair value of the plan assets associated with our various funded defined benefit plans for the indicated periods are set forth below (in millions):

Balance at 1 June 2021	£	2,481.8
Expected return on assets		30.4
Employer contributions		118.0
Benefits paid		(38.3)
Actuarial gain		128.2
Balance at 31 December 2021		2,720.1
Expected return on assets		79.3
Employer contributions		213.4
Benefits paid		(76.0)
Actuarial loss		(1,112.4)
Balance at 31 December 2022	£	1,824.4

We expect to contribute £1.0 million to our defined benefit plans during the year ended 31 December 2023, with these payments relating to the expected administration costs of the NTL and NTL 99 Plans.

Our defined benefit plan assets as of 31 December 2022 comprise the following:

	L1		L2	L3	
	Listed	Unlisted	Listed	Unlisted	Total
	in millions				
Cash and cash equivalents	£ 404.8	£ 37.5	£ (492.8)	£ —	£ (50.5)
Derivatives	—	—	(6.5)	—	(6.5)
Bonds	184.8	—	1,022.3	207.3	1,414.4
Equity	—	—	13.1	—	13.1
Private debt and equity	—	—	—	324.2	324.2
Insurance policies	—	—	—	128.5	128.5
Property	—	—	1.2	—	1.2
Total	£ 589.6	£ 37.5	£ 537.3	£ 660.0	£ 1,824.4

The details of the gain (loss) related to our defined benefit plans and recognized in our consolidated statements of comprehensive loss during 2022 and 2021 are set forth below:

	Year ended 31 December 2022	Period from 1 June 2021 to 31 December 2021
	in millions	
Actuarial gain (loss) recognized in accumulated other comprehensive earnings (loss)	£ (258.3)	£ 28.0
Net periodic pension cost:		
Interest costs	(42.2)	(24.9)
Expected return on assets	79.3	30.4
Amortization of prior service costs	(0.1)	(0.1)
Net periodic pension cost recognized in comprehensive loss	37.0	5.4
Total gain (loss) recognized in other comprehensive earnings (loss)	£ (221.3)	£ 33.4

The main assumptions, shown as a range, as adopted under ASC 715 *Compensation - Retirement Benefits* for our defined benefit plans (funded and unfunded) as of 31 December 2022 are as follows:

	Telefonica UK & Unfunded Pension Plan	NTL & Unfunded ACP	NTL 99
Life expectancy (male currently age 60 / 40) (in years)	87.6 / 89.0	87.5 / 89.0	87.0 / 88.5
Life expectancy (female currently age 60 / 40) (in years)	89.5 / 90.9	89.6 / 91.0	89.2 / 90.7
Discount rate	4.8%	4.9%	4.8%
Expected return on assets	5.8%	5.8%	4.4%
Inflation assumptions:			
RPI	3.2%	3.3%	3.2%
CPI	2.7%	2.8%	2.7%
Mortality base table	95% / 105% (M/F) S3NA	92% / 98% (M/F) S3PA	98% / 103% (M/F) S3PA
Mortality future improvements	CMI_2021 projections with long term rate of improvement of 1.25% per annum, w2021 of 0%, and an initial addition of 0.25% for each of the plans		

At 31 December 2022, the weighted average duration of the defined benefit obligation of our Telefónica U.K. funded and unfunded Pension Plan, NTL funded and unfunded ACP, and NTL 99 funded plans were 18.0, 12.0, and 17.0 years, respectively.

Any sensitivity analysis may not be representative of an actual change in the defined benefit obligation as it is unlikely that changes in assumptions would occur in isolation of one another. In presenting the sensitivity analysis, the change in present value of defined benefit obligations has been calculated using the projected unit credit method as of 31 December 2022, which is the same as that applied in calculating the defined benefit obligation liability recognized on our consolidated balance sheets. The rate of inflation assumption sensitivity factors in the impact of changes to all assumptions relating to inflation, including associated pension increase assumption. The following sensitivity analysis table summarizes how a reasonably possible change in particular assumptions would, in isolation, result in an increase to the defined benefit obligation as of 31 December 2022 (in millions):

Decrease discount rate by 0.25%	£	58.0
Increase inflation rate by 0.25%	£	49.4
Increase life expectancy by 1 year	£	38.3

As of 31 December 2022, the expected future benefit payments from the plans are:

	Funded	Unfunded
	in millions	
Year ending 31 December:		
2023	£ 75.5	£ 0.2
2024	78.1	0.2
2025	80.3	0.2
2026	82.5	0.2
2027	85.0	0.2
Thereafter	2,831.9	8.5
Total	£ 3,233.3	£ 9.5

Other pension plans

We also operate defined contribution plans. The assets of these defined contribution arrangements are held separately from those of VMED O2 in independently administered funds. The expense in the statements of comprehensive loss, relating to the defined contribution plans is equal to the contributions payable with respect to the period presented, which totalled £67.1 million and £28.5 million during 2022 and 2021, respectively.

(18) Accumulated Other Comprehensive Earnings (Loss)

Accumulated other comprehensive earnings (loss) included on our consolidated balance sheets and statements of equity reflect the aggregate impact of foreign currency translation adjustments and pension-related adjustments. The changes in the components of accumulated other comprehensive earnings (loss), net of taxes, are summarized as follows:

	Foreign currency translation adjustments	Pension-related adjustments	Total accumulated other comprehensive earnings (loss)
		in millions	
Balance at 1 June 2021	£ —	£ —	£ —
Other comprehensive earnings	13.3	20.3	33.6
Balance at 31 December 2021	13.3	20.3	33.6
Other comprehensive loss	30.5	(195.3)	(164.8)
Balance at 31 December 2022	£ 43.8	£ (175.0)	£ (131.2)

The components of other comprehensive earnings (loss), net of taxes, are reflected in our consolidated statements of comprehensive loss. The following tables summarize the income tax effects related to each component of other comprehensive earnings (loss), net of amounts reclassified to our consolidated statements of operations for the year ended 31 December 2022 and period from 1 June 2021 to 31 December 2021:

	Year ended 31 December 2022		
	Pre-tax amount	Income tax benefit	Net-of-tax amount
		in millions	
Foreign currency translation adjustments	£ 30.5	£ —	£ 30.5
Pension-related adjustments	(258.3)	63.0	(195.3)
Other comprehensive earnings (loss)	£ (227.8)	£ 63.0	£ (164.8)

	Period from 1 June 2021 to 31 December 2021		
	Pre-tax amount	Income tax expense	Net-of-tax amount
		in millions	
Foreign currency translation adjustments	£ 13.3	£ —	£ 13.3
Pension-related adjustments	28.0	(7.7)	20.3
Other comprehensive earnings (loss)	£ 41.3	£ (7.7)	£ 33.6

(19) Commitments and Contingencies

Commitments

In the normal course of business, we have entered into agreements that commit our Company to make cash payments in future periods with respect to programming contracts, purchases of customer premises and other equipment and services, network and connectivity commitments and other items. The following table sets forth the pound sterling equivalents of such commitments as of 31 December 2022. The commitments included in this table do not reflect any liabilities that are included on our 31 December 2022 consolidated balance sheet.

	Payments due during:						
	2023	2024	2025	2026	2027	Thereafter	Total
				in millions			
Programming commitments (a)	£ 619.7	£ 537.8	£ 396.1	£ 387.5	£ 366.5	£ 179.9	£ 2,487.5
Purchase commitments (b)	974.4	129.9	71.3	45.5	44.3	32.7	1,298.1
Network and connectivity commitments (c)	790.4	72.9	50.8	21.3	18.0	177.4	1,130.8
JV Services Agreement (d)	197.9	201.4	205.6	209.9	89.3	—	904.1
Other commitments	120.3	33.4	28.6	26.4	21.3	14.2	244.2
Total	£ 2,702.7	£ 975.4	£ 752.4	£ 690.6	£ 539.4	£ 404.2	£ 6,064.7

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(a) Programming commitments consist of obligations associated with certain of our programming contracts that are enforceable and legally binding on us as we have agreed to pay minimum fees without regard to (i) the actual number of subscribers to the programming services or (ii) whether we terminate service to a portion of our subscribers or dispose of a portion of our distribution systems. 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.

(b) Purchase commitments include unconditional and legally binding obligations related to (i) the purchase of customer premises and other equipment and (ii) certain service-related commitments, including call centre, information technology and maintenance services.

(c) Network and connectivity commitments include (i) service commitments associated with the nexfibre construction programme (see below for further details), (ii) commitments associated with VMED O2's full fibre upgrade and (iii) commitments associated with our MVNO agreements. The amounts reflected in the above table with respect to certain of our MVNO commitments represent fixed minimum amounts payable under these agreements and, therefore, may be significantly less than the actual amounts we ultimately pay in these periods. Following notice given to cancel the MVNO agreement with Vodafone, by the end of 2022 all Virgin Mobile traffic had been successfully moved to run over the O2 network. Migration of Virgin Mobile customer plans to O2 will begin in March 2023.

(d) Pursuant to the JV Service Agreements entered into in connection with the closing of the JV Transaction, Liberty Global and Telefónica charge VMED O2 UK Limited fees, for JV Services. The JV Services are provided to us on a transitional or ongoing basis. Pursuant to the terms of the JV Service Agreements, both the ongoing services and transitional services are provided for specified terms from the 1 June 2021 formation of VMED O2 UK Limited. Ongoing services are predominantly for six-year terms whereas transitional services will be provided for terms up to 24 months, subject to our ability to terminate based on specified notice periods. The JV Services provided by the respective subsidiaries of the Shareholders consist primarily of (i) technology and other services, (ii) capital-related expenditures for assets that we use or otherwise benefit us, (iii) brand name and procurement fees and (iv) certain corporate services. The amounts set forth in the table above represent fixed minimum charges from Liberty Global and Telefónica pursuant to the JV Service Agreements. In addition to the fixed minimum charges, the JV Service Agreements provide for certain JV Services to be charged to us based upon usage of the services received. The fixed minimum charges set forth in the table above exclude fees for the usage-based services as these fees will vary from period to period. Accordingly, we expect to incur charges in addition to those set forth in the table above for usage-based services.

In addition to the commitments set forth in the table above, we have significant commitments under (i) derivative instruments. For information regarding our derivative instruments, including the net cash paid or received in connection with these instruments, see note 6.

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

Disclosure Requests. O2 has been addressing a request for disclosure made by governmental authorities related to possible violations of anti-bribery laws and regulations. O2 continues to co-operate with the governmental authorities investigating this matter, which is still ongoing. It is not possible at this time to predict the full scope or duration of this matter or its eventual outcome.

Phones 4u. Legal proceedings have been issued in the High Court against O2 by the Administrators of Phones 4u. O2 has vigorously denied the allegations and filed its amended defence to this claim in October 2021. Hearings at the High Court commenced 16 May 2022 and have since concluded. The judgement is yet to be delivered with no firm expectation on timing. No provision has been made in relation to this matter.

Other Regulatory Matters. Mobile, broadband internet, video and fixed-line telephony businesses are subject to significant regulation and supervision by various regulatory bodies in the U.K. 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, plant and equipment additions. In addition, 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 may have contingent liabilities related to matters arising in the ordinary course of business including (i) legal proceedings, (ii) issues involving VAT and employment, 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 unfavourable outcomes.

Shareholders' Announcement of Fibre Joint Venture

On 29 July 2022, Liberty Global and Telefónica announced an agreement with investment firm InfraVia Capital Partners to form a new fibre joint venture to build a wholesale FTTH network in the U.K., the transaction completed in December 2022 under the brand name nexfibre. nexfibre will roll out fibre to 5 million greenfield homes not currently served by VMED O2's network by 2026, with the option to expand to an additional 2 million greenfield homes. VMED O2 will commit to being an anchor tenant of the new network, extending its total fibre footprint to up to 23 million homes, as well as providing its well-established network expansion expertise, systems and relationships to nexfibre, including construction, IT, technology and corporate services.

(20) Segment Reporting

We have one reportable segment that provides mobile, broadband internet, video and fixed-line telephony services in the U.K.

Our revenue by major category is set forth below:

	Year ended 31 December 2022	Period from 1 June 2021 to 31 December 2021
	in millions	
Mobile (a)	£ 5,945.6	£ 3,581.9
Handset	1,646.5	1,119.6
Fixed	3,953.6	2,372.2
Consumer fixed (b)	3,398.7	2,009.1
Subscription (c)	3,329.7	1,961.1
Other	69.0	48.0
B2B fixed revenue (d)	554.9	363.1
Other	492.7	272.0
Total	£ 10,391.9	£ 6,226.1

(a) Mobile revenue includes amounts received from residential and B2B customers for ongoing services and, amongst other items, revenue from sales of mobile handsets and interconnect revenue.

(b) Consumer fixed revenue includes amounts received from subscribers, including certain small or home office (**SoHo**) subscribers, for ongoing services and the recognition of deferred installation revenue over the associated contract period. SoHo subscribers pay a premium price to receive expanded service levels that are the same or similar to the mass marketed products offered to our residential subscribers. Consumer fixed other revenue includes, among other items, channel carriage fees, late fees and revenue from sale of equipment.

(c) Consumer fixed subscription revenue from subscribers who purchase bundled services at a discounted rate is generally allocated proportionally to each service based on the standalone price for each individual service. As a result, changes in the standalone pricing of our cable and mobile products or the composition of bundles can contribute to changes in our product revenue categories from period to period.

(d) B2B fixed revenue includes (i) revenue from business broadband internet, fixed-line telephony and other services offered to small and medium businesses, large enterprises and the public sector and, on a wholesale basis, to other operators and (ii) revenue from long-term leases of portions of our network.

(21) Subsequent Events

In March 2023, we entered into a $750.0 million sustainability linked term loan facility (**Term Loan Y**). Term Loan Y matures on 31 March 2031 and bears interest at a rate of Secured Overnight Financing Rate (**SOFR**) plus 3.25% (subject to adjustment based on the achievement or otherwise of certain ESG metrics). The proceeds from Term Loan Y were used to repay £220 million of the outstanding principal amount under Term Loan X. The remaining proceeds were used for general corporate purposes (including the repayment of the existing debt).

The certain ESG metrics linked to carbon emissions were re-baselined at the time of financing Term Loan Y. Changes were made in order to improve (i) accuracy of electricity consumption estimation for masts operating on third party sites and this was backdated to 2020 and (ii) the residual electricity grid mix emissions factor is now used for non-renewable electricity consumption.

In March 2023, we also made a further draw down of £325.0m of Term Loan X. This was used to fund the dividend, also paid in March 2023, of £325.0 million to our shareholders.

INDEPENDENT AUDITORS’ REPORT

To the Shareholders and Supervisory Board
VodafoneZiggo Group Holding B.V.

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the consolidated financial statements of VodafoneZiggo Group Holding B.V. (a B.V. registered in The Netherlands) and its subsidiaries (the Company), which comprise the consolidated balance sheet as of December 31, 2022, and the related consolidated statements of operations, owners’ equity, and cash flows for the year then ended, and the related notes to the consolidated financial statements (collectively, “the consolidated financial statements”).

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022, and the results of its operations and its cash flows for the year then ended in accordance with U.S. generally accepted accounting principles.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors’ Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Other Matter

The accompanying consolidated balance sheet of VodafoneZiggo Group Holding B.V. and its subsidiaries as of December 31, 2021, and the related consolidated statements of operations, consolidated statement of owners’ equity, cash flows and related notes to the consolidated financial statements for the years ended December 31, 2021 and 2020 were not audited, reviewed, or compiled by us, and, accordingly, we do not express an opinion or any other form of assurance on them.

Responsibilities of the Management Board for the Consolidated Financial Statements

The Management Board is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with U.S. generally accepted accounting principles, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company’s ability to continue as a going concern for one year after the date that the consolidated financial statements are issued.

Auditors’ Responsibilities for the Audit of the **Consolidated** *Financial Statements*

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors’ report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the consolidated financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, no such opinion is expressed.

- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the consolidated financial statements.

- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

/s/ KPMG Accountants N.V.
Amstelveen, The Netherlands
March 28, 2023

VODAFONEZIGGO GROUP HOLDING B.V.

CONSOLIDATED BALANCE SHEETS

	December 31,	
	2022	2021*
	in millions	
ASSETS		
Current assets:		
Cash and cash equivalents	€ 93.6	€ 244.9
Trade receivables, net	154.9	164.3
Related-party receivables (note 11)	47.4	47.1
Prepaid expenses	40.8	28.2
Derivative instruments (note 5)	170.1	56.7
Contract assets (note 4)	152.6	152.4
Other current assets, net (note 4)	102.1	93.4
Total current assets	761.5	787.0
Property and equipment, net (notes 7 and 9)	4,780.1	4,754.4
Goodwill (note 7)	7,375.5	7,375.5
Intangible assets subject to amortization, net (note 7)	4,505.9	5,127.9
Long-term derivative instruments (note 5)	968.9	162.0
Long-term contract assets (note 4)	58.1	58.8
Other assets, net (notes 4 and 9)	421.2	429.8
Total assets	€ 18,871.2	€ 18,695.4

* Unaudited

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

VODAFONEZIGGO GROUP HOLDING B.V.

CONSOLIDATED BALANCE SHEETS — (Continued)

	December 31,	
	2022	2021*
	in millions	
LIABILITIES AND OWNERS' EQUITY		
Current liabilities:		
Accounts payable (note 11)	€ 453.8	€ 367.7
Accrued and other current liabilities (notes 7, 9 and 11):	347.1	352.7
Deferred revenue and advance payments from subscribers and others (note 4)	205.8	210.3
VAT payable	126.6	133.1
Accrued income taxes (note 10)	108.8	61.7
Derivative instruments (note 5)	41.4	70.1
Accrued interest (note 8)	148.3	136.3
Current portion of third-party debt and finance lease obligations (notes 8 and 9)	1,107.0	1,078.1
Total current liabilities	2,538.8	2,410.0
Long-term debt and finance lease obligations (notes 8 and 9):		
Third-party	10,218.0	9,857.4
Related-party (note 11)	1,815.8	1,815.8
Deferred income taxes (note 10)	1,227.1	1,173.1
Other long-term liabilities (notes 4, 5, 9 and 11)	419.4	661.2
Total liabilities	16,219.1	15,917.5
Commitments and contingencies (notes 5, 11 and 12)		
Total owners' equity	2,652.1	2,777.9
Total liabilities and owners' equity	€ 18,871.2	€ 18,695.4

* Unaudited

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

VODAFONEZIGGO GROUP HOLDING B.V.

CONSOLIDATED STATEMENTS OF OPERATIONS

	Year ended December 31,		
	2022	2021*	2020*
		in millions	
Revenue (notes 4, 11 and 13)	€ 4,065.6	€ 4,076.9	€ 4,000.2
Operating costs and expenses (exclusive of depreciation and amortization, shown separately below):			
Programming and other direct costs of services (note 11)	841.3	864.5	832.9
Other operating	465.5	468.8	471.3
Selling, general and administrative (**SG&A**) (note 11)	629.7	614.4	594.6
Charges for JV Services (note 11)	214.3	215.0	224.8
Depreciation and amortization	1,528.4	1,580.3	1,639.7
Impairment, restructuring and other operating items, net (note 11)	12.5	37.0	(11.7)
	3,691.7	3,780.0	3,751.6
Operating income	373.9	296.9	248.6
Non-operating income (expense):			
Interest expense:			
Third-party	(473.3)	(415.8)	(440.5)
Related-party (note 11)	(102.2)	(95.5)	(84.0)
Realized and unrealized gains (losses) on derivative instruments, net (note 5)	1,189.6	524.8	(387.8)
Foreign currency transaction gains (losses), net	(344.7)	(380.1)	453.8
Losses on debt extinguishment, net (note 8)	(71.1)	(7.6)	(41.9)
Other income, net	4.9	0.6	0.2
	203.2	(373.6)	(500.2)
Earnings (loss) before income taxes	577.1	(76.7)	(251.6)
Income tax expense (note 10)	(202.7)	(61.1)	(141.5)
Net earnings (loss)	€ 374.4	€ (137.8)	€ (393.1)

* Unaudited

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

VODAFONEZIGGO GROUP HOLDING B.V.

CONSOLIDATED STATEMENTS OF OWNERS' EQUITY

	Share capital	Additional Paid in Capital	Accumulated Surplus / (Deficit)	Total
	in millions			
Balance at January 1, 2020, before effect of accounting change*	€ 0.0001	€ 4,662.8	€ (406.0)	€ 4,256.8
Impact of ASU No. 2016-13 (note 2)*	—	—	(0.8)	(0.8)
Balance at January 1, 2020, as adjusted for accounting change*	0.0001	4,662.8	(406.8)	4,256.0
Net loss*	—	—	(393.1)	(393.1)
Distributions to Shareholders (note 11)*	—	(417.0)	—	(417.0)
Share-based compensation (note 11)*	—	0.3	—	0.3
Other*	—	(0.9)	—	(0.9)
Balance at December 31, 2020*	0.0001	4,245.2	(799.9)	3,445.3
Net loss*	—	—	(137.8)	(137.8)
Distributions to Shareholders (note 11)*	—	(530.0)	—	(530.0)
Share-based compensation (note 11)*	—	0.5	—	0.5
Other*	—	(0.1)	—	(0.1)
Balance at December 31, 2021*	0.0001	3,715.6	(937.7)	2,777.9
Net earnings	—	—	374.4	374.4
Distributions to Shareholders (note 11)	—	(500.0)	—	(500.0)
Other	—	(0.2)	—	(0.2)
Balance at December 31, 2022	€ 0.0001	€ 3,215.4	€ (563.3)	€ 2,652.1

* Unaudited

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

VODAFONEZIGGO GROUP HOLDING B.V.

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended December 31,		
	2022	2021*	2020*
		in millions	
Cash flows from operating activities:			
Net earnings (loss)	€ 374.4	€ (137.8)	€ (393.1)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Share-based compensation expense	—	0.5	0.3
Depreciation and amortization	1,528.4	1,580.3	1,639.7
Impairment, restructuring and other operating items, net	12.5	37.0	(11.7)
Amortization of debt premiums, deferred financing costs and other non-cash interest	6.6	8.2	8.9
Realized and unrealized losses (gains) on derivative instruments, net	(1,189.6)	(524.8)	387.8
Foreign currency transaction losses (gains), net	344.7	380.1	(453.8)
Losses on extinguishment of debt, net	71.1	7.6	41.9
Deferred income tax expense (benefit)	54.0	(0.7)	141.5
Changes in operating assets and liabilities	184.4	90.7	14.2
Net cash provided by operating activities	1,386.5	1,441.1	1,375.7
Cash flows from investing activities:			
Capital expenditures	(491.1)	(298.1)	(288.5)
Cash paid for spectrum licenses	—	(207.9)	(207.9)
Other investing activities, net	1.8	0.3	2.8
Net cash used by investing activities	€ (489.3)	€ (505.7)	€ (493.6)

* Unaudited

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

VODAFONEZIGGO GROUP HOLDING B.V.

CONSOLIDATED STATEMENTS OF CASH FLOWS — (Continued)

	Year ended December 31,		
	2022	2021*	2020*
		in millions	
Cash flows from financing activities:			
Borrowings of third-party debt	€ 186.4	€ 50.5	€ 2,751.0
Operating-related vendor financing additions	733.6	698.4	685.7
Related-party borrowings, net	—	207.9	207.9
Repayments of third-party debt and finance lease obligations:			
Debt (excluding vendor financing)	(145.0)	(166.8)	(2,728.6)
Principal payments on operating-related vendor financing	(715.8)	(695.4)	(646.6)
Principal payments on capital-related vendor financing	(532.4)	(545.8)	(567.3)
Principal payments on finance leases	(8.2)	(9.0)	(10.1)
Distributions to Shareholders	(500.0)	(530.0)	(417.0)
Receipt (payment) of financing costs and debt premiums	(65.3)	0.8	(64.0)
Other financing activities, net	0.8	(1.0)	(0.5)
Net cash used by financing activities	(1,045.9)	(990.4)	(789.5)
Effect of exchange rate changes on cash and cash equivalents and restricted cash	1.3	0.2	2.4
Net increase (decrease) in cash and cash equivalents and restricted cash	(147.4)	(54.8)	95.0
Cash and cash equivalents and restricted cash:			
Beginning of year	247.3	302.1	207.1
End of year	€ 99.9	€ 247.3	€ 302.1
Cash paid for interest:			
Cash paid for third-party interest	€ 462.1	€ 413.8	€ 426.2
Cash paid for related-party interest	102.2	95.5	84.0
Total	€ 564.3	€ 509.3	€ 510.2
Cash paid for income taxes	€ 101.6	€ —	€ —
Details of end of period cash and cash equivalents and restricted cash:			
Cash and cash equivalents	€ 93.6	€ 244.9	€ 300.9
Restricted cash (included in other current assets)	6.3	2.4	1.2
Total cash and cash equivalents and restricted cash	€ 99.9	€ 247.3	€ 302.1

* Unaudited

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

(1) Basis of Presentation

VodafoneZiggo Group Holding B.V. (**VodafoneZiggo**) provides fixed, mobile and integrated communication and entertainment services to consumers and businesses in the Netherlands. In these notes, the terms “we,” “our,” “our company”, and “us” may refer, as the context requires, to VodafoneZiggo or collectively to VodafoneZiggo and its subsidiaries.

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

These consolidated financial statements have been prepared in accordance with accounting principles generally applied in the United States (**GAAP**). Our functional currency is the euro (**€**). Unless otherwise indicated, convenience translations into euros are calculated as of December 31, 2022.
These consolidated financial statements reflect our consideration of the accounting and disclosure implications of subsequent events through March 28, 2023, the date of issuance.

(2) Accounting Changes and Recent Accounting Pronouncements

Accounting Changes

ASU 2016-13

In June 2016, the Financial Accounting Standards Board (**FASB**) issued Accounting Standards Update (**ASU**) No 2016-13, *Measurement of Credit Losses on Financial Statements* (**ASU 2016-13**), which changes the recognition model for credit losses related to assets held at amortized cost. ASU 2016-13 eliminates the threshold that a loss must be considered probable to recognize a credit loss and instead requires an entity to reflect its current estimate of lifetime expected credit losses. We adopted ASU 2016-13 on January 1, 2020 on a modified retrospective basis by recording a cumulative effect adjustment of €0.8 million to our owners’ equity related to the net increase to our allowances for certain trade receivables and contract assets.

Recent Accounting Pronouncements

ASU 2022-04

In September 2022, the FASB issued ASU No. 2022-04, *Liabilities—Supplier Finance Programs* (**ASU 2022-04**), which requires additional disclosures for buyers participating in supplier financing programs, which we refer to as vendor financing, including (1) the key terms of the arrangement, (2) the confirmed amount outstanding at the end of the period, (3) the balance sheet presentation of related amounts and (4) a reconciliation of the balances from period to period. ASU 2022-04 is effective for annual reporting periods beginning after December 15, 2022, including interim periods within those fiscal years, with early adoption permitted. We do not expect ASU 2022-04 to have a significant impact on our consolidated financial statements. For additional information regarding our vendor financing obligations, see note 8.

ASU 2020-04

In April 2020, the FASB issued ASU No. 2020-04, *Facilitation of the Effects of Reference Rate Reform on Financial Reporting* (**ASU 2020-04**), which provides optional expedients and exceptions for contract modifications, subject to meeting certain criteria, that reference the London Interbank Offered Rate (**LIBOR**) or another reference rate expected to be discontinued. In accordance with the optional expedients in ASU 2020-04, we expect to modify certain of our debt agreements during 2023 to replace LIBOR with another reference rate and apply the practical expedient to account for the modification as a continuation of the existing contract. We currently do not believe the use of optional expedients in ASU 2020-04 will have a significant impact on our consolidated financial statements. For additional information regarding our debt, see note 8.

(3) Summary of Significant Accounting Policies

Estimates

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

Reclassifications

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

Principles of Consolidation

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

Cash and Cash Equivalents and Restricted Cash

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

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

Our significant non-cash investing and financing activities are disclosed in notes 5, 7, 8 and 9 to our consolidated financial statements.

Cash Flow Statement

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

For purposes of our consolidated statements of cash flows, 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 on our behalf 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 that we report in our consolidated statements of cash flows do not include amounts that are financed under capital-related vendor financing or finance lease arrangements. Instead, these amounts are reflected as non-cash additions to our property and equipment when the underlying assets are delivered, and as repayments of debt when the principal is repaid.

Trade Receivables

Our trade receivables are reported net of an allowance for doubtful accounts. Such allowance aggregated €23.8 million and €28.7 million at December 31, 2022 and 2021, respectively. The allowance for doubtful accounts is 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.

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.

Financial Instruments

Due to the short maturities of cash and cash equivalents, trade receivables, related-party receivables, contract assets, other current assets, accounts payable, accrued and other current liabilities, VAT payable and accrued interest, their respective carrying values approximate their respective fair values. For information concerning the fair values of certain of our derivatives and debt, see notes 5 and 8, respectively. For information regarding how we arrive at certain of our fair value measurements, see note 6.

Derivative Instruments

All derivative instruments are recorded on the balance sheet 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 earnings.

The net cash received or paid related to our derivative instruments is classified as an operating, investing or financing activity in our consolidated statements of cash flows based on the objective of the derivative instrument and the classification of the applicable underlying cash flows.

For additional information regarding our derivative instruments, see note 5.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation. 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. 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 new, or upgrades to existing 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. Interest capitalized with respect to construction activities was not material during any of the periods presented.

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

Depreciation is computed using the straight-line method over the estimated useful life of the underlying asset. Equipment under finance leases is amortized on a straight-line basis over the shorter of the lease term or estimated useful life of the asset. Useful lives used to depreciate our property and equipment are assessed periodically and are adjusted when warranted. The useful lives of 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 additional information regarding the useful lives of our property and equipment, see note 7.

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

We recognize a liability for asset retirement obligations in the period in which it is incurred if sufficient information is available to make a reasonable estimate of fair values. Asset retirement obligations may arise from the loss of rights of way that we obtain from local municipalities or other relevant authorities. Under certain circumstances, the authorities could require us to remove our network equipment from an area if, for example, we were to discontinue using the equipment for an extended period of time or the authorities were to decide not to renew our access rights. However, because the rights of way are integral to our ability to deliver broadband communications services to our customers, we expect to conduct our business in a manner that will allow us to maintain these rights for the foreseeable future. In addition, we have no reason to believe that the authorities will not renew our rights of way and, historically, renewals have been granted. We also have obligations in lease agreements to restore the property to its original condition or remove our property at the end of the lease term. Sufficient information is not available to estimate the fair value of our asset retirement obligations in certain of our lease arrangements. This is the case for long-term lease arrangements in which the underlying leased property is integral to our operations, there is not an acceptable alternative to the leased property and we have the ability to indefinitely renew the lease. Accordingly, for most of our rights of way and certain lease agreements, the possibility is remote that we will incur significant removal costs in the foreseeable future and, as such, we do not have sufficient information to make a reasonable estimate of fair value for these asset retirement obligations.

As of December 31, 2022 and 2021, the recorded value of our asset retirement obligations was €21.9 million and €37.8 million, respectively.

Intangible Assets

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

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

For additional information regarding the useful lives of our intangible assets, see note 7.

Impairment of Property and Equipment and Intangible Assets

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

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

Leases

For leases with a term greater than 12 months, we recognize on the lease commencement date (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 our leases do not provide enough information to determine an implicit interest rate, we 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.

With respect to our finance leases, (i) ROU assets are generally depreciated on a straight-line basis over the shorter of the lease term or the useful life of the asset and (ii) interest expense on the lease liability is recorded using the effective interest method. Operating lease expense is recognized on a straight-line basis over the lease term. For leases with a term of 12 months or less (short-term leases), we do not recognize ROU assets or lease liabilities. Short-term lease expense is recognized on a straight-line basis over the lease term.

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 operating loss and tax credit carryforwards. We measure deferred tax assets and liabilities using enacted tax rates in effect for the year in which those temporary differences and carryforwards are expected to be recovered or settled. We recognize the financial statement effects of a tax position when it is more-likely-than-not, based on technical merits, that the position will be sustained upon examination. Recognized tax positions are measured as the largest amount of tax benefit that is greater than 50 percent likely of being realized upon settlement. Net deferred tax assets are then reduced by a valuation allowance to the amount we believe is more-likely-than-not to be realized. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in earnings in the period that includes the enactment date. Interest and penalties related to income tax liabilities are included in income tax expense in our consolidated statements of operations.

The VodafoneZiggo Fiscal Unity, established on the level of VodafoneZiggo, is one taxpayer for the period of time subsequent to the closing of the JV Transaction.

For additional information regarding our income taxes, see note 10

Multiemployer Benefit Plans

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

Foreign Currency Transactions

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

Revenue Recognition

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

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

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

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

Mobile Revenue — Handset Revenue. Arrangement consideration allocated to handsets is recognized as revenue at the point in time in which the goods have been transferred to the customer. Mobile handset contracts that permit the customer to take control of the handset upfront and pay for the handset in installments over a contractual period may contain a significant financing component. For contracts with terms of one year or more, we recognize the significant financing component as revenue over the contractual period using the effective interest method.

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

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

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

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

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

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

For a summary of our revenue disaggregated by major category, see note 13.

Programming Costs

Programming costs include (i) agreements to distribute channels to our customers and (ii) 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. For contracts containing minimum guarantees, we accrue based on the greater of the minimum guarantee or the amount calculated off the actual number of subscribers. Programming costs under such arrangements are recorded in programming and other direct costs of services in our consolidated statement of operations during the period when the programming is available for viewing.

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 long-term portions of any payments made in advance of the respective season are recorded as other current assets and other assets, net, respectively, on our consolidated balance sheet 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.

Litigation Costs

Legal fees and related litigation costs are expensed as incurred.

(4) Revenue Recognition and Related Costs

Contract Balances

If we transfer goods or services to a customer but do not have an unconditional right to payment, we record a contract asset. Contract assets typically arise from the delivery of a handset that is paid for over the duration of the contract period or the uniform recognition of introductory promotional discounts over the contract period. Our contract assets were €210.7 million and €211.2 million as of December 31, 2022 and 2021, respectively, and are reported net of an allowance for doubtful accounts. Such allowance aggregated €5.5 million and €4.4 million at December 31, 2022 and 2021, respectively.

We record deferred revenue when we receive payment prior to transferring goods or services to a customer. We primarily defer revenue for (i) services that are invoiced prior to when services are provided and (ii) installation and other upfront services. Our deferred revenue balances were €208.3 million and €207.4 million as of December 31, 2022 and 2021, respectively. The current and long-term portions of our deferred revenue balances are included within deferred revenue and advance payment from subscribers and others and other long-term liabilities, respectively, on our consolidated balance sheets.

Contract Costs

Our aggregate assets associated with incremental costs to obtain and fulfill our contracts were €67.3 million and €69.0 million at December 31, 2022 and 2021, respectively. The current and long-term portions of our assets related to contract costs are included within other current assets, net and other assets, net, respectively, on our consolidated balance sheets. During 2022, 2021 and 2020, we amortized €80.8 million, €88.1 million and €99.5 million, respectively, to programming and other direct costs of service expenses and other operating expenses.

Unsatisfied Performance Obligations

A large portion of our revenue is derived from customers whose initial contracts have been extended. A large portion of these customers have a one month notice period. Revenue from customers who are subject to initial contracts will be recognized over the term of such contracts, which is generally 12-24 months for our residential contracts and one to five years for our B2B service contracts.

(5) Derivative Instruments

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

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

	December 31, 2022			December 31, 2021		
	Current	Long-term (a)	Total	Current	Long-term (a)	Total
	in millions					
Assets:						
Cross-currency and interest rate derivative contracts (b)	€ 170.1	€ 968.9	€ 1,139.0	€ 56.5	€ 162.0	€ 218.5
Foreign currency forward contracts	—	—	—	0.2	—	0.2
Total	€ 170.1	€ 968.9	€ 1,139.0	€ 56.7	€ 162.0	€ 218.7
Liabilities:						
Cross-currency and interest rate derivative contracts (b)	€ 41.2	€ 67.0	€ 108.2	€ 70.0	€ 263.6	€ 333.6
Foreign currency forward contracts	0.2	—	0.2	0.1	—	0.1
Total	€ 41.4	€ 67.0	€ 108.4	€ 70.1	€ 263.6	€ 333.7

(a) Our long-term derivative liabilities are included in other long-term liabilities on our consolidated balance sheets.

(b) We consider credit risk relating to our and our counterparties' nonperformance in the fair value assessment of our derivative instruments. In all cases, the adjustments take into account offsetting liability or asset positions. The changes in the credit risk valuation adjustments associated with our cross-currency and interest rate derivative contracts resulted in net gains (losses) of (€36.8 million), (€65.4 million) and €67.5 million during 2022, 2021 and 2020, respectively. These amounts are included in realized and unrealized gains (losses) on derivative instruments, net, in our consolidated statements of operations. For further information regarding our fair value measurements, see note 6.

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

	Year ended December 31,		
	2022	2021	2020
	in millions		
Cross-currency and interest rate derivative contracts	€ 1,189.3	€ 524.4	€ (386.9)
Foreign currency forward contracts	0.3	0.4	(0.9)
Total	€ 1,189.6	€ 524.8	€ (387.8)

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

	Year ended December 31,		
	2022	2021	2020
	in millions		
Operating activities	€ 42.2	€ (23.5)	€ 5.9
Financing activities	1.8	(0.1)	0.2
Total	€ 44.0	€ (23.6)	€ 6.1

Counterparty Credit Risk

We are exposed to the risk that the counterparties to our derivative instruments will default on their obligations to us. We manage these credit risks through the evaluation and monitoring of the creditworthiness of and concentration of risk with the respective counterparties. In this regard, credit risk associated with our derivative instruments is spread across a relatively broad counterparty base of banks and financial institutions, however notwithstanding, given the size of our derivative portfolio, the default of certain counterparties could have a significant impact on our consolidated statements of operations. 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 €1.0 billion.

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

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

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

Details of our Derivative Instruments

In the following tables, we present the details of the various categories of our derivative instruments. The notional amounts of multiple derivative instruments that mature within the same calendar month are shown in the aggregate and interest rates are presented on a weighted average basis. In addition, for derivative instruments that were in effect as of December 31, 2022, we present a single date that represents the applicable final maturity date. For derivative instruments that become effective subsequent to December 31, 2022, we present a range of dates that represents the period covered by the applicable derivative instruments.

Cross-currency Derivative Contracts

As noted above, we are exposed to foreign currency exchange rate risk in situations where our debt is denominated in a currency other than our functional currency. Although we generally seek to match the denomination of our borrowings with our functional currency, market conditions or other factors may cause us to enter into borrowing arrangements that are not denominated in our functional currency (unmatched debt). Our policy is generally to provide for an economic hedge against foreign currency exchange rate movements by using derivative instruments to synthetically convert unmatched debt into the applicable underlying currency. At December 31, 2022, substantially all of our debt was either directly or synthetically matched to our functional currency. The weighted average remaining contractual life of our cross-currency derivative contracts at December 31, 2022 was 4.3 years.

The terms of our outstanding cross-currency derivative contracts at December 31, 2022, are as follows:

Final maturity date	Notional amount due from counterparty		Notional amount due to counterparty		Interest rate due from counterparty	Interest rate due to counterparty
	in millions					
January 2025 (a)	$	2,230.0	€	1,985.9	4.03%	2.95%
April 2028	$	2,050.0	€	1,581.0	6 mo. LIBOR + 2.50%	3.82%
January 2030	$	1,525.0	€	1,356.9	5.00%	3.57%
January 2025 (a)	€	872.2	$	980.0	0.31%	0.33%
January 2028	$	500.0	€	450.0	4.88%	6 mo. EURIBOR + 3.04%
February 2028	$	500.0	€	429.9	5.13%	3.64%
January 2028	$	491.0	€	406.8	4.88%	3.85%
April 2028	$	475.0	€	431.4	6 mo. LIBOR + 2.50%	6 mo. EURIBOR + 2.58%
April 2025	$	325.0	€	302.8	6 mo. LIBOR + 2.50%	6 mo. EURIBOR + 2.42%

(a) Includes certain derivative instruments that do not involve the exchange of notional amounts at the inception and maturity of the instruments. Accordingly, the only cash flows associated with these derivative instruments are interest-related payments and receipts. At December 31, 2022, the total euro equivalent of the notional amounts of these derivative instruments was €1,455.7 million.

Interest Rate Swap Contracts

As noted above, we enter into interest rate swap contracts to protect against increases in the interest rates on our variable-rate debt. Pursuant to these derivative instruments, we typically pay fixed interest rates and receive variable interest rates on specified notional amounts. At December 31, 2022, the related weighted average remaining contractual life of our interest rate swap contracts was 5.8 years.

The terms of our outstanding interest rate swap contracts at December 31, 2022, are as follows:

Final maturity date	Notional amount		Interest rate due from counterparty	Interest rate due to counterparty
	in millions			
January 2029 (a)	€	2,250.0	6 mo. EURIBOR	1.20%
January 2028		450.0	6 mo. EURIBOR	0.03%
April 2028		431.4	6 mo. EURIBOR	1.59%
April 2025		11.0	6 mo. EURIBOR	2.71%
	€	3,142.4		

(a) Includes amounts subject to a 0.0% floor.

Basis Swaps

Our basis swaps involve the exchange of attributes used to calculate our floating interest rates, including (i) the benchmark rate, (ii) the underlying currency, and/or (iii) the borrowing period. We typically enter into these swaps to optimize our interest rate profile based on our current evaluations of yield curves, our risk management policies and other factors. At December 31, 2022, the euro equivalent of the notional amount due from the counterparty was €2,357.5 million and the related weighted average remaining contractual life of our interest basis swap contracts was 0.8 years.

The terms of our outstanding basis swap contracts at December 31, 2022, are as follows:

Final maturity date	Notional amount		Interest rate due from counterparty	Interest rate due to counterparty
	in millions			
October 2023 (a)	$	2,525.0	1 mo. LIBOR + 2.50%	6 mo. LIBOR + 2.41%

(a) Includes amounts subject to a 0.0% floor.

Interest Rate Options

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 euro equivalent of notional amounts of our interest rate caps and floors were €205.0 million and €4,607.5 million, 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, was a decrease of 171 basis points to our borrowing costs as of December 31, 2022.

Foreign Currency Forwards

We enter into foreign currency forward contracts with respect to non-functional currency exposure. At December 31, 2022, the euro equivalent of the notional amount of our foreign currency forward contracts was €10.0 million.

(6) Fair Value Measurements

We use the fair value method to account for our derivative instruments. The reported fair values of these derivative instruments as of December 31, 2022, likely will not represent the value that will be paid or received upon the ultimate settlement or disposition of these assets and liabilities.

GAAP provides for a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. Level 1 inputs are quoted market prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Level 2 inputs are inputs other than quoted market prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability. We record transfers of assets or liabilities into or out of Levels 1, 2 or 3 at the beginning of the quarter during which the transfer occurred. During 2022, no such transfers were made.

All of our Level 2 inputs (interest rate futures and swap rates) and certain of our Level 3 inputs (credit spreads) are obtained from pricing services. These inputs, or interpolations or extrapolations thereof, are used in our internal models to calculate, among other items, yield curves and forward interest and currency rates. In the normal course of business, we receive market value assessments from the counterparties to our derivative contracts. Although we compare these assessments to our internal valuations and investigate unexpected differences, we do not otherwise rely on counterparty quotes to determine the fair values of our derivative instruments. The midpoints of applicable bid and ask ranges generally are used as inputs for our internal valuations.

In order to manage our interest rate and foreign currency exchange risk, we have entered into various derivative instruments as further described in note 5. The recurring fair value measurements of these instruments are determined using discounted cash flow models. Most of the inputs to these discounted cash flow models consist of, or are derived from, observable Level 2 data for substantially the full term of these instruments. This observable data mostly includes interest rate futures and swap rates, which are retrieved or derived from available market data. Although we may extrapolate or interpolate this data, we do not otherwise alter this data in performing our valuations. We use a Monte Carlo based approach to incorporate a credit risk valuation adjustment in our fair value measurements to estimate the impact of both our own nonperformance risk and the nonperformance risk of our counterparties. Our and our counterparties' credit spreads represent our most significant Level 3 inputs, and these inputs are used to derive the credit risk valuation adjustments with respect to these instruments. As we would not expect changes in our or our counterparties' credit spreads to have a significant impact on the valuations of these instruments, we have determined that these valuations fall under Level 2 of the fair value hierarchy. Our credit risk valuation adjustments with respect to our cross-currency and interest rate swaps are quantified and further explained in note 5.

Fair value measurements are also used in connection with nonrecurring valuations performed in connection with impairment assessments and acquisition accounting. During 2022 and 2021, we did not perform significant nonrecurring fair value measurements.

A summary of our assets and liabilities that are measured at fair value on a recurring basis is as follows:

	December 31,	
	2022 (a)	2021 (a)
	in millions	
Assets:		
Cross-currency and interest rate derivative contracts	€ 1,139.0	€ 218.5
Foreign currency forward contracts	—	0.2
Total	€ 1,139.0	€ 218.7
Liabilities:		
Cross-currency and interest rate derivative contracts	€ 108.2	€ 333.6
Foreign currency forward contracts	0.2	0.1
Total	€ 108.4	€ 333.7

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(a) At December 31, 2022 and 2021, we used significant other observable inputs (Level 2) to measure all of our fair value assets and liabilities.

(7) Long-lived Assets

Property and Equipment, Net

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

	Estimated useful life at December 31, 2022	December 31, 2022	December 31, 2021
		in millions	
Distribution systems	4 to 30 years	€ 5,824.5	€ 5,699.3
Support equipment, buildings and land	3 to 40 years	1,071.7	1,484.5
Customer premises equipment	3 to 5 years	974.0	1,013.8
		7,870.2	8,197.6
Accumulated depreciation		(3,090.1)	(3,443.2)
Total property and equipment, net		€ 4,780.1	€ 4,754.4

Depreciation expense related to our property and equipment was €906.4 million, €958.3 million and €1,026.7 million during 2022, 2021 and 2020, respectively.

During 2022, 2021 and 2020, we recorded non-cash increases to our property and equipment related to vendor financing arrangements of €462.8 million, €500.2 million and €494.8 million, respectively, which exclude related VAT of €51.4 million, €42.4 million and €38.5 million, respectively, that was also financed by our vendors under these arrangements.

All of the support equipment, buildings and land is pledged as security under our various debt instruments. For additional information, see note 8.

During 2022, 2021 and 2020, we recorded impairment charges of €0.8 million, €2.5 million and €11.9 million, respectively. These amounts were primarily related to property and equipment.

Goodwill

Our goodwill represents the equity of the VodafoneZiggo JV contributed businesses in excess of the fair value of our net identifiable assets and liabilities. There was no change in the carrying amount of our goodwill during 2022 and 2021.

If, among other factors, the adverse impact of economic competitive, regulatory or other factors were to cause our operations or cash flows to be worse than anticipated, or if our weighted average cost of capital increases, we could conclude in future periods that impairment charges are required in order to reduce the carrying values of our goodwill, and, to a lesser extent, other long-lived assets. Any such impairment charges could be significant.

Intangible Assets Subject to Amortization, Net

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

	Estimated useful life at December 31, 2022	December 31, 2022			December 31, 2021		
		Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
		in millions					
Customer relationships	7 to 22 years	€ 6,420.0	€ (3,059.4)	€ 3,360.6	€ 6,420.0	€ (2,549.5)	€ 3,870.5
Licenses	17 to 20 years	1,470.9	(530.8)	940.1	1,470.9	(429.5)	1,041.4
Trade name	25 years	270.0	(64.8)	205.2	270.0	(54.0)	216.0
Total		€ 8,160.9	€ (3,655.0)	€ 4,505.9	€ 8,160.9	€ (3,033.0)	€ 5,127.9

Amortization expense related to intangible assets with finite useful lives was €622.0 million, €622.0 million and €613.0 million during 2022, 2021 and 2020, respectively. Based on our amortizable intangible asset balances at December 31, 2022, we expect that amortization expense will be as follows for the next five years and thereafter (in millions):

2023	€ 622.2
2024	613.6
2025	613.6
2026	290.3
2027	255.3
Thereafter	2,110.9
Total	€ 4,505.9

(8) Debt

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

	December 31, 2022		Principal amount	
	Weighted average interest rate (a)	Unused borrowing capacity (b)	December 31, 2022	December 31, 2021
			in millions	
Senior and Senior Secured Notes	4.44 %	€ —	€ 5,551.9	€ 5,286.0
Credit Facilities (b)(c)	6.29 %	800.0	4,625.1	4,509.4
Vendor financing (d)	2.67 %	—	999.5	999.7
Other debt (e)	2.73 %	—	168.4	166.5
Total principal amount of third-party debt before premiums, discounts and deferred financing costs (f)	5.01 %	€ 800.0	€ 11,344.9	€ 10,961.6

(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, the weighted average interest rate on our aggregate third-party variable- and fixed-rate indebtedness was 3.8% at December 31, 2022. For information regarding our derivative instruments, see note 5.

(b) The Credit Facilities include a revolving facility with a maximum borrowing capacity of €800.0 million, which was undrawn at December 31, 2022. Unused borrowing capacity represents the maximum availability under the Credit Facilities at December 31, 2022 without regard to covenant compliance calculations or other conditions precedent to borrowing. At December 31, 2022, based on the most restrictive applicable leverage covenants and leverage-based restricted payment tests, the full €800.0 million of unused borrowing capacity was available to be borrowed and there were no additional restrictions on our ability to make loans or distributions from this availability. Upon completion of the relevant December 31, 2022 compliance reporting requirements and based on the most restrictive applicable leverage covenants and leverage-based restricted payment tests, we expect that the full amount of unused borrowing capacity will continue to be available to be borrowed and that there will be no additional restrictions with respect to loans or distributions from this availability. Our above expectations do not consider any actual or potential changes in 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 under the Credit Facilities.

(c) Principal amounts include €17.6 million and €41.9 million at December 31, 2022 and 2021, respectively, of borrowings pursuant to an excess cash facility under the Credit Facilities. These borrowings are owed to a non-consolidated special purpose financing entity that has issued notes to finance the purchase of receivables due from our company to certain other third parties for amounts that we and our subsidiaries have vendor financed. To the extent that the proceeds from these notes exceed the amount of vendor financed receivables available to be purchased, the excess proceeds are used to fund this excess cash facility.

(d) Represents amounts owed to various creditors pursuant to interest-bearing vendor financing arrangements that are used to finance certain of our property and equipment 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 on our consolidated balance sheets. 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 was €733.6 million and €698.4 million, respectively. Repayments of vendor financing obligations at the time we pay the financing intermediary are included in repayments of third-party debt and finance lease obligations in our consolidated statements of cash flows.

(e) Represents a handset securitization facility related to our mobile handset receivables. On March 23, 2023, this facility was extended by eight months. The extension repayments are scheduled to start in November 2023 and the facility is due to be repaid in full in 2025.

(f) As of December 31, 2022 and 2021, our debt had an estimated fair value of €10.1 billion and €11.0 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 6.

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

	December 31,	
	2022	2021
	in millions	
Total principal amount of third-party debt before premiums, discounts and deferred financing costs	€ 11,344.9	€ 10,961.6
Premiums, discounts and deferred financing costs, net	(35.7)	(45.7)
Total carrying amount of third-party debt	11,309.2	10,915.9
Third-party finance lease obligations	15.8	19.6
Total third-party debt and finance lease obligations	11,325.0	10,935.5
Related-party debt (note 11)	1,815.8	1,815.8
Total debt and finance lease obligations	13,140.8	12,751.3
Current maturities of debt and finance lease obligations	(1,107.0)	(1,078.1)
Long-term debt and finance lease obligations	€ 12,033.8	€ 11,673.2

Credit Facilities. We have entered into a senior secured credit facility agreement with certain financial institutions and a senior credit facility agreement with a non-consolidated special purpose financing entity (as described under *Credit Facilities* below) (the **credit facilities**). Our credit facilities contain certain covenants, the more notable of which are as follows:

- Our credit facilities contain certain consolidated net leverage ratios, as specified in the relevant credit facility, which are required to be complied with (i) on an incurrence basis and/or (ii) in respect of our senior secured credit facilities, when the associated revolving credit facility has been drawn beyond a specified percentage of the total available revolving credit commitments on a maintenance basis;

- Subject to certain customary and agreed exceptions, our credit facilities contain certain restrictions which, among other things, restrict the ability of certain of our subsidiaries to (i) incur or guarantee certain financial indebtedness, (ii) make certain disposals and acquisitions, (iii) create certain security interests over their assets, and (iv) make certain restricted payments to their direct and/or indirect parent companies through dividends, loans or other distributions;

- Our credit facilities require that certain of our subsidiaries (i) guarantee the payment of all sums payable under the relevant credit facility and (ii) in respect of our senior secured credit facilities, grant first-ranking security over substantially all of their assets to secure the payment of all sums payable thereunder;

- In addition to certain mandatory prepayment events, the instructing group of lenders under our senior secured credit facilities, under certain circumstances, may cancel the commitments thereunder and declare the loans thereunder due and payable at par after the notice period following the occurrence of a change of control (as specified in our senior secured credit facilities);

- In addition to certain mandatory prepayment events, the individual lender under our senior credit facilities, under certain circumstances, may cancel its commitments thereunder and declare the loans thereunder due and payable at a price of 101% after the notice period following the occurrence of a change of control (as specified in our senior credit facilities);

- Our credit facilities contain certain customary events of default, the occurrence of which, subject to certain exceptions, materiality qualifications and cure rights, would allow the instructing group of lenders to (i) cancel the total commitments, (ii) declare that all or part of the loans be payable on demand, and/or (iii) accelerate all outstanding loans and terminate their commitments thereunder;

- Our credit facilities require that we observe certain affirmative and negative undertakings and covenants, which are subject to certain materiality qualifications and other customary and agreed exceptions;

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

- Our senior credit facilities provide that any failure to pay principal at its stated maturity (after the expiration of any applicable grace period) of, or any acceleration with respect to, other indebtedness of the borrower or certain of our subsidiaries over agreed minimum thresholds (as specified under the senior credit facilities), is an event of default under the senior credit facilities.

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

- Subject to certain materiality qualifications and other customary and agreed exceptions, our notes contain (i) certain customary incurrence-based covenants and (ii) certain restrictions that, among other things, restrict the ability of certain of our subsidiaries to (a) incur or guarantee certain financial indebtedness, (b) make certain disposals and acquisitions, (c) create certain security interests over their assets, and (d) make certain restricted payments to their direct and/or indirect parent companies through dividends, loans or other distributions;

- Our notes provide that any failure to pay principal at its stated maturity (after the expiration of any applicable grace period) of, or any acceleration with respect to, other indebtedness of the issuer or certain of our subsidiaries over agreed minimum thresholds (as specified under the applicable indenture), is an event of default under the respective notes;

- If the relevant issuer or certain of its subsidiaries (as specified in the applicable indenture) sell certain assets, such issuer must, subject to certain materiality qualifications and other customary and agreed exceptions, offer to repurchase the applicable notes at par, or if a change of control (as specified in the applicable indenture) occurs, such issuer must offer to repurchase all of the relevant notes at a redemption price of 101%; and

- Our senior secured notes contain certain early redemption provisions including the ability to, during each 12-month period commencing on the issue date for such notes until the applicable call date, redeem up to 10% of the original principal amount of the notes at a redemption price equal to 103% of the principal amount of the notes to be redeemed plus accrued and unpaid interest.

In January 2022, we published our new Sustainable Finance Framework (**SFF**) which incorporates our previously published Green Bond Framework. Our SFF enables us to issue green and sustainable financing and aligns our Corporate Social Responsibility strategy with our capital structure. Key Performance Indicators with corresponding Sustainable Performance Targets to halve our CO2 emissions (Scope 1, 2 and 3) by 2025 (compared to 2018) are included in our SFF. Our SFF is aligned with the Green Bond Principles 2021, the Green Loan Principles 2021, the Sustainability-Linked Bond Principles 2020, and the Sustainability-Linked Loan Principles 2021 and has been certified by Sustainalytics, a leading and global independent company in Environmental, Social and Governance research and rating provider. In 2022, we issued our inaugural Sustainability-Linked Senior Secured Notes under our SFF. For additional information on the issuance of these notes, see *Financing Transactions* below.

Credit Facilities

The Credit Facilities are the senior and senior secured credit facilities of certain subsidiaries of VodafoneZiggo Group B.V. The details of our borrowings under the Credit Facilities as of December 31, 2022 are summarized in the following table:

Credit Facility	Maturity	Interest rate	Facility amount (in borrowing currency) (a)	Outstanding principal amount	Unused borrowing capacity	Carrying value (b)
				in millions		
Senior Secured Facilities:						
Facility H (c)	January 31, 2029	EURIBOR + 3.00%	€ 2,250.0	€ 2,250.0	€ —	€ 2,241.1
Facility I (d)	April 30, 2028	LIBOR + 2.50%	$ 2,525.0	2,357.5	—	2,352.4
Revolving Facility (e)	January 31, 2026	(e)	€ 800.0	—	800.0	—
Total Senior Secured Facilities				4,607.5	800.0	4,593.5
Senior Facilities:						
Financing Facility (f)	January 15, 2029	2.875%	€ 17.6	17.6	—	17.6
Total				€ 4,625.1	€ 800.0	€ 4,611.1

(a) Amounts represent total third-party facility amounts as of December 31, 2022.

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

(c) Facility H has a EURIBOR floor of 0.0%.

(d) Facility I has a LIBOR floor of 0.0%.

(e) The Revolving Facility bears interest at EURIBOR plus 2.75% (subject to a margin ratchet) and has a fee on unused commitments of 40% of such margin per year.

(f) Amounts represent borrowings that are owed to a non-consolidated special purpose financing entity that has issued notes to finance the purchase of receivables due from our company to certain other third parties for amounts that we and our subsidiaries have vendor financed. To the extent that the proceeds from these notes exceed the amount of vendor financed receivables available to be purchased, the excess proceeds are used to fund this excess cash facility.

Senior and Senior Secured Notes

The details of the outstanding Senior and Senior Secured Notes as of December 31, 2022 are summarized in the following table:

Senior and Senior Secured Notes	Maturity	Interest rate	Outstanding principal amount				Carrying value (a)	
			Borrowing currency		Euro equivalent			
					in millions			
2027 Senior Notes	January 15, 2027	6.000%	$	625.0	€	583.5	€	575.4
2030 Dollar Senior Secured Notes	January 15, 2030	4.875%	$	991.0		925.3		932.7
2030 Euro Senior Secured Notes	January 15, 2030	2.875%	€	502.5		502.5		501.5
2030 Euro Senior Notes	February 28, 2030	3.375%	€	900.0		900.0		896.0
2030 Dollar Senior Notes	February 28, 2030	5.125%	$	500.0		466.8		463.5
2032 Dollar Senior Secured Notes	January 15, 2032	5.000%	$	1,525.0		1,423.8		1,415.5
2032 Euro Senior Secured Notes	January 15, 2032	3.500%	€	750.0		750.0		745.6
Total					€	5,551.9	€	5,530.2

(a) Amounts are net of unamortized premiums, discounts, fair value adjustments and deferred financing costs, as applicable.

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

Senior and Senior Secured Notes	Call Date
2027 Senior Notes	January 15, 2022
2030 Dollar Senior Secured Notes	October 15, 2024
2030 Euro Senior Secured Notes	October 15, 2024
2030 Euro Senior Notes	February 15, 2025
2030 Dollar Senior Notes	February 15, 2025
2032 Dollar Senior Secured Notes	January 15, 2027
2032 Euro Senior Secured Notes	January 15, 2027

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

	Redemption Price						
	2027 Senior Notes	**2030 Dollar Senior Secured Notes**	**2030 Euro Senior Secured Notes**	**2030 Euro Senior Notes**	**2030 Dollar Senior Notes**	**2032 Dollar Senior Secured Notes (a)**	**2032 Euro Senior Secured Notes (a)**
12-month period commencing	January 15	October 15	October 15	February 15	February 15	January 15	January 15
2023	102.000%	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2024	101.000%	102.438%	101.438%	N.A.	N.A.	N.A.	N.A.
2025	100.000%	101.219%	100.719%	101.688%	102.563%	N.A.	N.A.
2026	100.000%	100.609%	100.359%	100.844%	101.281%	N.A.	N.A.
2027	100.000%	100.000%	100.000%	100.422%	100.641%	102.500%	101.750%
2028	N.A.	100.000%	100.000%	100.000%	100.000%	101.250%	100.875%
2029	N.A.	100.000%	100.000%	100.000%	100.000%	100.625%	100.438%
2030 and thereafter	N.A.	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%

(a) The redemption prices applicable to the 2032 Senior Secured Notes shall, subject to certain limitations, increase or decrease by a maximum of 0.125% per annum depending on if we have achieved certain sustainability performance targets.

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 the year ended December 31, 2022. 2021 and 2020, non-cash borrowings and repayments aggregated €1,974.4 million, €173.0 million and €2,324.9 million, respectively.

2022 Financing Transactions. In January 2022, we issued (i) $1,525.0 million (€1,347.5 million) principal amount of 5.0% sustainability-linked senior secured notes (the 2032 Dollar Senior Secured Notes) at an issue price of 99.0% of par, and (ii) €750.0 million principal amount of 3.5% sustainability-linked senior secured notes (the **2032 Euro Senior Secured Notes**, and together with the **2032 Dollar Senior Secured Notes**, the **2032 Senior Secured Notes**) at an issue price of par, each in accordance with our new SFF and maturing on January 15, 2032. From July 16, 2026 and thereafter, the interest rates applicable to the 2032 Senior Secured Notes shall increase by a maximum of 0.25% per annum unless we have achieved certain sustainability performance targets.

The net proceeds of the issuance of these notes have been used to (i) redeem in full the outstanding principal amount of our 2027 Dollar Senior Secured Notes ($1,600.0 million) at a premium of 2.750% and (ii) redeem in full the outstanding principal amount of our 2027 Euro Senior Secured Notes (€620.0 million) at a premium of 2.125%.

In connection with this transaction, we recognized a net loss on debt extinguishment of €71.1 million related to (i) the payment of €52.0 million of redemption premiums and (ii) the write-off of fair value adjustments and unamortized deferred financing costs of €19.1 million.

2021 Financing Transactions. In March 2021, pursuant to a private placement, we issued $200.0 million (€163.3 million) principal amount of 2030 Dollar Senior Secured Notes at an issue price of 104.25% of par. The net proceeds from the issuance of these notes were used to redeem 10% of the original aggregate principal amount of our 2027 Dollar Senior Secured Notes at a premium of 3%. In connection with this transaction, we recognized a net loss on debt extinguishment of €7.6 million related to (i) the payment of €5.0 million of redemption premiums and (ii) the write-off of €2.6 million of fair value adjustments and unamortized deferred financing costs.

2020 Financing Transactions. During 2020, we completed a number of financing transactions that generally resulted in lower interest rates and extended maturities. In connection with these transactions, we recognized a net loss on debt extinguishment of €41.9 million. These losses include the net effect of (i) the payment of €50.5 million of redemption premiums and (ii) the release of €8.6 million of net unamortized deferred financing costs, discounts and premiums.

Maturities of Debt

The euro equivalents of the maturities of our debt as of December 31, 2022 are presented below:

	Third-party	Related-party	Total
		in millions	
Year ending December 31:			
2023 (a)	€ 1,100.4	€ —	€ 1,100.4
2024	39.0	—	39.0
2025	43.8	—	43.8
2026	—	—	—
2027	583.5	—	583.5
Thereafter	9,578.2	1,815.8	11,394.0
Total debt maturities	11,344.9	1,815.8	13,160.7
Premiums, discounts and deferred financing costs, net	(35.7)	—	(35.7)
Total debt	€ 11,309.2	€ 1,815.8	€ 13,125.0
Current portion	€ 1,100.4	€ —	€ 1,100.4
Noncurrent portion	€ 10,208.8	€ 1,815.8	€ 12,024.6

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(a) Third-party amounts include vendor financing obligations of €999.5 million, as set forth below (in millions):

Year ending December 31:	
2023	€ 999.5
Total vendor financing maturities (1)	€ 999.5
Current portion	€ 999.5
Noncurrent portion	€ —

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(1) VZ Vendor Financing II B.V. (**VZ Vendor Financing II**), a third-party special purpose financing entity that is not consolidated by VodafoneZiggo, has issued an aggregate €700.0 million in notes maturing in January 2029 (the **Vendor Financing II Notes**). The net proceeds from the Vendor Financing II Notes are used by VZ Vendor Financing II to purchase from various third parties certain vendor-financed receivables owed by VodafoneZiggo Group B.V. To the extent that the proceeds from the Vendor Financing II Notes exceed the amount of vendor-financed receivables available to be purchased, the excess proceeds are used to fund the Financing Facility. As additional vendor-financed receivables become available for purchase, VZ Vendor Financing II can request that VodafoneZiggo Group B.V. repay any amounts made available under the Financing Facility.

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	€ 999.7	€ 999.4
Operating-related vendor financing additions	733.6	698.4
Capital-related vendor financing additions	462.8	500.2
Principal payments on operating-related vendor financing	(715.8)	(695.4)
Principal payments on capital-related vendor financing	(532.4)	(545.8)
Other	51.6	42.9
Balance at December 31	€ 999.5	€ 999.7

(9) Leases

General

We enter into operating and finance leases for network equipment, real estate, mobile site sharing and vehicles. We provide residual value guarantees on certain of our vehicle leases.

Lease Balances

A summary of our ROU assets and lease liabilities is set forth below:

	December 31,	
	2022	2021
	in millions	
ROU assets:		
Operating leases (a)	€ 345.6	€ 366.7
Finance leases (b)	15.7	19.3
Total ROU assets	€ 361.3	€ 386.0
Lease liabilities:		
Operating leases (c)	€ 346.3	€ 377.3
Finance leases (d)	15.8	19.6
Total lease liabilities	€ 362.1	€ 396.9

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(a) Our operating lease ROU assets are included in other assets, net, on our consolidated balance sheets. At December 31, 2022, the weighted average remaining lease term for operating leases was 6.9 years and the weighted average discount rate was 3.4%. During 2022, 2021 and 2020, we recorded non-cash additions to our operating ROU assets of €31.6 million, €30.5 million and €19.6 million , respectively.

(b) Our finance lease ROU assets are included in property and equipment, net, on our consolidated balance sheets. At December 31, 2022, the weighted average remaining lease term for finance leases was 2.8 years and the weighted average discount rate was 4.0%. During 2022, 2021 and 2020, we recorded non-cash additions to our finance ROU assets of €4.6 million, €6.4 million and €13.6 million, respectively.

(c) The current and long-term portions of our operating lease liabilities are included within other accrued and current liabilities and other long-term liabilities, respectively, on our consolidated balance sheets.

(d) The current and long-term portions of our finance lease obligations are included within current portion of debt and finance lease obligations and long-term debt and finance lease obligations, respectively, on our consolidated balance sheets.

A summary of our aggregate lease expense is set forth below:

	Year ended December 31,		
	2022	2021	2020
		in millions	
Finance lease expense:			
Depreciation and amortization	€ 8.4	€ 9.4	€ 10.3
Interest expense	0.5	0.5	1.0
Total finance lease expense	8.9	9.9	11.3
Operating lease expense (a)	79.2	83.3	81.1
Variable lease expense, net (b)	1.8	(1.0)	(0.9)
Total lease expense	€ 89.9	€ 92.2	€ 91.5

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(a) Our operating lease expense is included in other operating expenses and SG&A expenses in our consolidated statements of operations.

(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 other operating expenses in our consolidated statements of operations.

A summary of our cash outflows from operating and finance leases is set forth below:

	Year ended December 31,		
	2022	2021	2020
		in millions	
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash outflows from operating leases	€ 85.5	€ 84.6	€ 80.2
Operating cash outflows from finance leases	0.5	0.5	1.0
Financing cash outflows from finance leases	8.2	9.0	10.1
Total cash outflows from operating and finance leases	€ 94.2	€ 94.1	€ 91.3

Maturities of our operating and finance lease obligations as of December 31, 2022 are presented below. Amounts presented below represent euro equivalents based on December 31, 2022, exchange rates:

	Operating leases	Finance leases
	in millions	
Year ending December 31:		
2023	€ 81.9	€ 7.0
2024	74.7	5.2
2025	55.5	2.9
2026	45.7	1.0
2027	37.4	0.3
Thereafter	107.8	—
Total principal and interest payments	403.0	16.4
Less: present value discount	(56.7)	(0.6)
Present value of net minimum lease payments	€ 346.3	€ 15.8
Current portion	€ 68.8	€ 6.6
Noncurrent portion	€ 277.5	€ 9.2

(10) Income Taxes

Our consolidated financial statements include the income taxes of VodafoneZiggo and its subsidiaries.

The VodafoneZiggo Fiscal Unity, established on the level of VodafoneZiggo, is one taxpayer for the period of time subsequent to the formation of the VodafoneZiggo JV.

During 2022, we recorded an income tax expense of €202.7 million, consisting of (i) a current income tax expense of €148.7 million and (ii) a deferred income tax expense of €54.0 million. During 2021, we recorded an income tax expense of €61.1 million, consisting of (i) a current income tax expense of €61.8 million and (ii) a deferred income tax benefit of €0.7 million. During 2020, we recorded an income tax expense of €141.5 million related to deferred tax.

Income tax benefit (expense) attributable to our result before income taxes differs from the amounts computed using the Dutch income tax rate of 25.8% (2021 and 2020: 25.0%) as a result of the following:

	Year ended December 31,		
	2022	2021	2020
		in millions	
Computed "expected" tax benefit (expense)	€ (148.9)	€ 19.2	€ 62.9
Enacted tax law and rate changes (a)	—	(35.3)	(138.8)
Change in valuation allowances	(55.4)	(42.4)	—
Non-deductible expenses (b)	(0.4)	(1.1)	(68.8)
Other, net	2.0	(1.5)	3.2
Total income tax expense	€ (202.7)	€ (61.1)	€ (141.5)

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(a) On December 27, 2021, legislation was enacted in the Netherlands to increase the highest Dutch corporate income tax rate from 25.0% to 25.8% effective January 1, 2022. The impact of this rate change on our deferred tax balances was recorded during the fourth quarter of 2021. On December 23, 2020, legislation was enacted in the Netherlands to retain the 25.0% corporate tax rate, eliminating the previously enacted reduction to 21.7%. Substantially all of the impacts of this rate change on our deferred tax balances were recorded during the fourth quarter of 2020.

(b) Amount for the year ended December 31, 2020, consists mainly of a change in estimate relating to the deductibility of depreciation of certain intangible assets included in our prior year tax returns as well as future deductibility of those assets

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

	December 31, 2022	December 31, 2021
	in millions	
Deferred tax assets:		
Debt and interest	€ 169.0	€ 47.0
Derivative instruments	—	34.4
Other future deductible amounts	12.6	16.8
Deferred tax assets	181.6	98.2
Valuation allowance (a)	(97.8)	(42.4)
Deferred tax assets, net of valuation allowance	83.8	55.8
Deferred tax liabilities:		
Intangible assets	(917.0)	(1,038.4)
Property and equipment, net	(152.1)	(181.8)
Derivative instruments	(237.7)	—
Other future taxable amounts	(4.1)	(8.7)
Deferred tax liabilities	(1,310.9)	(1,228.9)
Net deferred tax liability	€ (1,227.1)	€ (1,173.1)

(a) Our deferred income tax valuation allowance increased by €55.4 million in 2022. This increase reflects the impact of the interest deduction limitation being reduced from 30% of fiscal EBITDA to 20% as of January 1, 2022. This limits our ability to recover non-deductible interest as well as losses on debt extinguishment; therefore, we have recorded a valuation allowance in respect of these items.

In the normal course of business, our income tax filings are subject to review by the Dutch tax authority. In connection with such review, disputes could arise with the tax authority over the interpretation or application of certain income tax rules related to our business. Such disputes may result in future tax and interest and penalty assessments by the tax authority. The ultimate resolution of tax contingencies will take place upon the earlier of (i) the settlement date with the tax authority in either cash or agreement of income tax positions or (ii) the date when the tax authority is statutorily prohibited from adjusting the company's tax computations. In this respect, tax filings for the years 2019 - 2021 are still open for examination by the Dutch tax authority.

There were no material unrecognized tax benefits during 2022, 2021 or 2020.

(11) Related-party Transactions

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

	Year ended December 31,		
	2022	2021	2020
		in millions	
Revenue	€ 20.5	€ 16.4	€ 13.2
Programming and other direct costs of services	(59.7)	(29.8)	(10.0)
Selling, general and administrative recharges	10.4	15.6	13.0
Share-based compensation expense	—	(0.5)	(0.3)
Impairment, restructuring and other operating items, net	0.4	(1.5)	—
Charges for JV Services:			
Charges from Liberty Global:			
Operating (a)	(89.9)	(86.5)	(81.8)
Capital (b)	(16.3)	(16.3)	(24.7)
Total Liberty Global corporate charges	(106.2)	(102.8)	(106.5)
Charges from Vodafone:			
Operating (c)	(78.1)	(82.2)	(88.3)
Brand fees (d)	(30.0)	(30.0)	(30.0)
Total Vodafone corporate charges	(108.1)	(112.2)	(118.3)
Total charges for JV Services	(214.3)	(215.0)	(224.8)
Included in operating income	(242.7)	(214.8)	(208.9)
Interest expense	(102.2)	(95.5)	(84.0)
Included in earnings (loss) before income taxes	€ (344.9)	€ (310.3)	€ (292.9)
Property and equipment additions, net	€ 215.3	€ 186.4	€ 173.9

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(a) Represents amounts charged for technology and other services, which are included in the calculation of the "EBITDA" metric specified by our debt agreements (**Covenant EBITDA**).

(b) Represents amounts charged for capital expenditures made by Liberty Global related to assets that we use or will otherwise benefit our company. These charges are not included in the calculation of Covenant EBITDA.

(c) Represents amounts charged by Vodafone for technology and other services, a portion of which are included in the calculation of Covenant EBITDA.

(d) Represents amounts charged for our use of the Vodafone brand name. These charges are not included in the calculation of Covenant EBITDA.

Revenue. Amounts represent interconnect fees charged by us to certain subsidiaries of Vodafone.

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

Selling, general and administrative recharges. Amounts represent recharges for certain personnel services provided to Vodafone and Liberty Global.

Charges for JV Services - Framework and Trade Mark Agreements. Pursuant to a framework and a trade name agreement (collectively, the **JV Service Agreements**), Liberty Global and Vodafone charge us fees for certain services provided to us by the respective subsidiaries of the Shareholders (collectively, the **JV Services)**. The JV Services are provided to us on an ongoing basis. Pursuant to the terms of the JV Service Agreements, the JV Services can be terminated based on specified notice periods. The JV Services provided by the respective subsidiaries of the Shareholders consist primarily of (i) technology and other services, (ii) capital-related expenditures for assets that we use or otherwise benefit us, and (iii) brand name and procurement fees. The fees that Liberty Global and Vodafone charge us for the JV Services, as set forth in the table above, include both fixed and usage-based fees. The JV Service Agreements are currently being revised, including technical descriptions and commercial terms, and are expected to be finalized in the first half of 2023.

Interest expense. Amounts relate to the Liberty Global Notes and the Vodafone Notes, as defined and described below.

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

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

	December 31,	
	2022	**2021**
	in millions	
Assets:		
Related-party receivables (a)	€ 47.4	€ 47.1
Liabilities:		
Accounts payable (b)	€ 150.8	€ 98.4
Accrued and other current liabilities (b)	15.7	61.0
Debt (c):		
Liberty Global Notes	907.9	907.9
Vodafone Notes	907.9	907.9
Other long-term liabilities (d)	2.2	2.5
Total liabilities	€ 1,984.5	€ 1,977.7

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(a) Represents non-interest bearing receivables from certain Liberty Global and Vodafone subsidiaries.

(b) Represents non-interest bearing payables, accrued capital expenditures and other accrued liabilities related to transactions with certain Liberty Global and Vodafone subsidiaries that are cash settled.

(c) Represents debt obligations, as further described below.

(d) Represents operating lease liabilities, related to Vodafone.

Related-party Debt

Liberty Global Notes

The Liberty Global Notes, which are owed by VodafoneZiggo Group B.V., comprise (i) a euro-denominated note payable to a subsidiary of Liberty Global with a principal amount of €700.0 million at December 31, 2022 (the **Liberty Global Note Payable I**) and (ii) a euro-denominated note payable to a subsidiary of Liberty Global entered into during the third quarter of 2020 with a principal amount of €207.9 million at December 31, 2022 (the **Liberty Global Note Payable II**, and, together with the Liberty Global Note Payable I, the **Liberty Global Notes Payable**), out of which, €103.9 million was drawn during July 2021, to fund the final installment of spectrum license fees due to the Dutch government. The Liberty Global Note Payable I, as amended in June 2020, and the Liberty Global Note Payable II each bear interest at a fixed rate of 5.55% and have a final maturity date of December 31, 2030. During the year ended December 31, 2022, interest accrued on the Liberty Global Notes Payable was €51.1 million, all of which has been cash settled.

Vodafone Notes

The Vodafone Notes, which are owed by VodafoneZiggo Group B.V., comprise (i) a euro-denominated note payable to a subsidiary of Vodafone with a principal amount of €700.0 million at December 31, 2022 (the **Vodafone Note Payable I**) and (ii) a euro-denominated note payable to a subsidiary of Vodafone entered into during the third quarter of 2020 with a principal amount of €207.9 million at December 31, 2022 (the **Vodafone Note Payable II**, and, together with the Vodafone Note Payable I, the **Vodafone Notes Payable**), out of which, €103.9 million was drawn during July 2021, to fund the final installment of spectrum license fees due to the Dutch government. The Vodafone Note Payable I, as amended in July 2020, and the Vodafone Note Payable II each bear interest at a fixed rate of 5.55% and have a final maturity date of December 31, 2030. During the year ended December 31, 2022, interest accrued on the Vodafone Notes Payable was €51.1 million, all of which has been cash settled.

Shareholders Agreement

In connection with the JV Transaction, on December 31, 2016, Liberty Global and Vodafone entered into a shareholders agreement (the **Shareholders Agreement**) with VodafoneZiggo in respect of the VodafoneZiggo JV. Each Shareholder holds 50% of the issued share capital of VodafoneZiggo Group Holding. The Shareholders Agreement contains customary provisions for the governance of a 50:50 joint venture that result in Liberty Global and Vodafone having joint control over decision making with respect to the VodafoneZiggo JV. Furthermore, each Shareholder has the right to initiate an initial public offering (**IPO**) of the VodafoneZiggo JV with the opportunity for the other Shareholder to sell shares in the IPO on a pro rata basis. As of January 1, 2021, each 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 Shareholder.

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

In accordance with the dividend policy prescribed in the joint venture agreement governing our company, VodafoneZiggo made total distributions of €500.0 million, €530.0 million and €417.0 million during 2022, 2021 and 2020, respectively, to its Shareholders. The distributions are reflected as a decrease to owners' equity in our consolidated statements of owners' equity.

(12) Commitments and Contingencies

Commitments

As further described in note 11, we have commitments related to the JV Service Agreements. Additionally, in the normal course of business, we have entered into agreements that commit our company to make cash payments in future periods with respect to programming contracts, purchases of customer premises and other equipment and services and other items. The following table sets forth these 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 balance sheet.

	Payments due during:						
	2023	2024	2025	2026	2027	Thereafter	Total
	in millions						
Programming commitments	€ 122.8	€ 124.6	€ 91.6	€ 50.2	€ 30.0	€ 12.0	€ 431.2
Purchase commitments	245.3	15.0	10.8	1.2	0.4	0.1	272.8
JV Service Agreements (a)	93.4	36.4	32.3	31.9	30.5	30.0	254.5
Other commitments	25.2	23.7	15.7	7.6	7.2	32.2	111.6
Total	€ 486.7	€ 199.7	€ 150.4	€ 90.9	€ 68.1	€ 74.3	€ 1,070.1

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(a) Amounts represent fixed minimum charges from Liberty Global and Vodafone pursuant to the JV Service Agreements. In addition to the fixed minimum charges, the JV Service Agreements provide for certain JV Services to be charged to us based upon usage of the services received. The fixed minimum charges set forth in the table above exclude fees for the usage-based services as these fees will vary from period to period. Accordingly, we expect to incur charges in addition to those set forth in the table above for usage-based services. The JV Service Agreements are currently being revised, including technical descriptions and commercial terms, and are expected to be finalized in the first half of 2023. For additional information regarding fees related to the JV Service Agreements, see note 11.

Programming commitments consist of obligations associated with certain of our programming contracts that are enforceable and legally binding on us as we have agreed to pay minimum fees without regard to (i) the actual number of subscribers to the programming services or (ii) whether we terminate service to a portion of our subscribers or dispose of a portion of our distribution systems. In addition, programming commitments do not include increases in future periods associated with contractual inflation or other price adjustments that are not fixed. Accordingly, the amounts reflected in the above table with respect to these contracts are significantly less than the amounts we expect to pay in these periods under these contracts. Historically, payments to programming vendors have represented a significant portion of our operating costs, and we expect that this will continue to be the case in future periods. In this regard, during 2022, 2021 and 2020 the programming and copyright costs incurred by our operations aggregated €301.5 million, €315.0 million and €306.9 million, respectively.

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

Other commitments primarily include sponsorships and certain fixed minimum contractual commitments.

In addition to the commitments set forth in the table above, we have commitments under (i) derivative instruments and (ii) multiemployer defined benefit plans, pursuant to which we expect to make payments in future periods. For information regarding our derivative instruments, including the net cash paid or received in connection with these instruments during 2022, see note 5.

We provide retirement benefits to our subsidiaries' employees via multiemployer benefit plans and a defined contribution plan. The aggregate expense of our matching contributions under the various multiemployer benefit plans was €28.8 million, €30.4 million and €29.6 million during 2022, 2021 and 2020, respectively. The aggregate expense of our matching contributions under the defined contribution plan was €20.0 million, €19.2 million and €17.5 million during 2022, 2021 and 2020, 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.

Regulations and Contingencies

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

VAT. Our application of VAT with respect to certain mobile revenue generating activities has been challenged by the Dutch tax authorities in two different court cases. The Dutch tax authorities challenged the multipurpose character of certain mobile subscriptions that we entered into during 2017 and 2018. No amounts have been accrued by our company as the likelihood of loss is not considered to be probable. The total asserted claimed amount is approximately €33.4 million.

The oral hearing of our first court case was held on May 31, 2021 and the other court case took place on May 16, 2022. The court’s verdict in both cases was in favor of the tax authorities. We have appealed this decision to the higher court and the hearing of both cases was held on February 14, 2023.

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

(13) Segment Reporting

We have one reportable segment that provides fixed, mobile and integrated communication and entertainment services to consumers and businesses in the Netherlands.

Our revenue by major category is set forth below:

	Year ended December 31,		
	2022	2021	2020
	in millions		
Consumer fixed revenue (a):			
Subscription revenue	€ 2,026.6	€ 2,076.8	€ 2,071.7
Non-subscription revenue	13.0	25.1	23.8
Total consumer fixed revenue	2,039.6	2,101.9	2,095.5
Consumer mobile revenue (b):			
Service revenue	673.7	644.2	624.5
Non-service revenue	236.7	247.9	245.6
Total consumer mobile revenue	910.4	892.1	870.1
Total consumer revenue	2,950.0	2,994.0	2,965.6
B2B fixed revenue (c):			
Subscription revenue	525.5	516.9	482.4
Non-subscription revenue	11.7	13.5	15.6
Total B2B fixed revenue	537.2	530.4	498.0
B2B mobile revenue (d):			
Service revenue	392.0	364.8	381.1
Non-service revenue	145.2	130.2	114.1
Total B2B mobile revenue	537.2	495.0	495.2
Total B2B revenue	1,074.4	1,025.4	993.2
Other revenue (e)	41.2	57.5	41.4
Total	€ 4,065.6	€ 4,076.9	€ 4,000.2

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(a) Consumer fixed revenue is classified as either subscription revenue or non-subscription revenue. Consumer fixed subscription revenue includes revenue from subscribers for ongoing broadband internet, video and telephony services offered to residential customers and the amortization of installation fee. Consumer fixed non-subscription revenue includes, among other items, interconnect, channel carriage fees, late fees and revenue from the sale of equipment. Subscription revenue from subscribers who purchase bundled services at a discounted rate is generally allocated proportionally to each service based on the stand-alone price for each individual service. As a result, changes in the stand-alone pricing of our fixed and mobile products or the composition of bundles can contribute to changes in our product revenue categories from period to period.

(b) Consumer mobile revenue is classified as either service revenue or non-service revenue. Consumer mobile service revenue includes revenue from ongoing mobile and data services offered under postpaid and prepaid arrangements to residential customers. Consumer mobile non-service revenue includes, among other items, interconnect revenue, mobile handset and accessories sales, and late fees.

(c) B2B fixed revenue is classified as either subscription revenue or non-subscription revenue. B2B fixed subscription revenue includes revenue from business broadband internet, video, voice, and data services, offered to SOHO customers and small and medium to large enterprises. B2B fixed non-subscription revenue includes, among other items, revenue from hosting services, installation fees, carriage fees and interconnect.

(d) B2B mobile revenue is classified as either service revenue or non-service revenue. B2B mobile service revenue includes revenue from ongoing mobile and data services offered to SOHO, small and medium to large enterprise customers as well as wholesale customers. B2B mobile non-service revenue includes, among other items, interconnect (including visitor) revenue, mobile handset and accessories sales, and late fees.

(e) Other revenue includes, among other items, programming, advertising and site sharing revenue.

Exhibit 23.2

Consent of Independent Auditors

We consent to the incorporation by reference in the registration statements (No. 333-189220, 333-189222, 333-189223, 333-189224, 333-194578, 333-194581, 333-205542, 333-205543, and 333-254168) on Form S-8 of Liberty Global plc of our report dated March 28, 2023, with respect to the consolidated financial statements of VMED O2 UK Limited, which report appears in the Form 10-K/A of Liberty Global plc dated March 28, 2023.

/s/ KPMG LLP

London, United Kingdom
March 28, 2023

Exhibit 23.3

Consent of Independent Auditors

We consent to the incorporation by reference in the registration statements (No. 333-189220, 333-189222, 333-189223, 333-189224, 333-194578, 333-194581, 333-205542, 333-205543, and 333-254168) on Form S-8 of Liberty Global plc of our report dated March 28, 2023, with respect to the consolidated financial statements of VodafoneZiggo Group Holding B.V. which report appears in the Form 10-K/A of Liberty Global plc dated March 28, 2023.

/s/ KPMG Accountants N.V.

Amstelveen, The Netherlands

March 28, 2023

Exhibit 31.3

CERTIFICATION

I, Michael T. Fries, certify that:

1. I have reviewed this Amendment No. 1 on Form 10-K/A of Liberty Global plc;
2. Based on my knowledge, the Annual Report on Form 10-K/A for the year ended December 31, 2022 (the **Form 10-K/A**) does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by the Form 10-K/A; and
3. Based on my knowledge, the financial statements, and other financial information included in the Form 10-K/A, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in the Form 10-K/A.

Date: March 28, 2023

/s/ MICHAEL T. FRIES

Michael T. Fries

President and Chief Executive Officer

Exhibit 31.4

CERTIFICATION

I, Charles H.R. Bracken, certify that:

1. I have reviewed this Amendment No. 1 on Form 10-K/A of Liberty Global plc;
2. Based on my knowledge, the Annual Report on Form 10-K/A for the year ended December 31, 2022 (the **Form 10-K/A**) does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by the Form 10-K/A; and
3. Based on my knowledge, the financial statements, and other financial information included in the Form 10-K/A, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in the Form 10-K/A.

Date: March 28, 2023

/s/ CHARLES H.R. BRACKEN

Charles H.R. Bracken

Executive Vice President and Chief Financial Officer

Exhibit 32

Certification
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Liberty Global plc (the **Company**), does hereby certify, to such officer's knowledge, that:

The Annual Report on Form 10-K/A for the year ended December 31, 2022 (the **Form 10-K/A**) of the Company fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in the Form 10-K/A fairly presents, in all material respects, the financial condition and results of operations of the Company as of December 31, 2022 and December 31, 2021, and for the years ended December 31, 2022, 2021 and 2020.

Dated:	March 28, 2023	/s/ MICHAEL T. FRIES Michael T. Fries President and Chief Executive Officer
Dated:	March 28, 2023	/s/ CHARLES H.R. BRACKEN Charles H.R. Bracken Executive Vice President and Chief Financial Officer

The foregoing certification is being furnished solely pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code) and is not being filed as part of the Form 10-K/A or as a separate disclosure document.