Consolidated financial statements

Consolidated statement of financial position

millions of €

	Note	Dec. 31, 2022	Dec. 31, 2021
Assets			
Current assets		**39,144**	**38,799**
Cash and cash equivalents	1	5,767	7,617
Trade receivables	2	16,766	15,299
Contract assets	3	2,410	2,034
Current recoverable income taxes	32	213	321
Other financial assets	11	4,865	4,051
Inventories	4	2,639	2,855
Other assets	12	1,800	1,766
Non-current assets and disposal groups held for sale	5	4,683	4,856
Non-current assets		**259,446**	**242,828**
Intangible assets	6	140,600	132,647
Property, plant and equipment	7	65,729	61,770
Right-of-use assets	8	33,727	30,777
Capitalized contract costs	9	3,205	2,585
Investments accounted for using the equity method	10	1,318	938
Other financial assets	11	5,044	4,836
Deferred tax assets	32	8,316	7,906
Other assets	12	1,507	1,369
Total assets		**298,590**	**281,627**

millions of €

	Note	Dec. 31, 2022	Dec. 31, 2021
Liabilities			
Current liabilities		**45,389**	**38,803**
Financial liabilities	13	14,389	12,243
Lease liabilities	13	5,126	5,040
Trade and other payables	14	12,035	10,452
Income tax liabilities	32	801	549
Other provisions	16	4,412	3,903
Other liabilities	17	3,412	3,584
Contract liabilities	18	1,868	1,668
Liabilities directly associated with non-current assets and disposal groups held for sale	5	3,347	1,365
Non-current liabilities		**165,881**	**161,355**
Financial liabilities	13	98,641	99,223
Lease liabilities	13	33,666	28,094
Provisions for pensions and other employee benefits	15	4,150	6,134
Other provisions	16	3,792	5,560
Deferred tax liabilities	32	22,800	19,809
Other liabilities	17	2,171	1,959
Contract liabilities	18	663	577
Liabilities		**211,270**	**200,159**
Shareholders' equity	19	**87,320**	**81,469**
Issued capital		12,765	12,765
Treasury shares		(35)	(37)
		12,730	**12,728**
Capital reserves		61,532	63,773
Retained earnings including carryforwards		(34,489)	(36,358)
Total other comprehensive income		783	(1,641)
Net profit (loss)		8,001	4,176
Issued capital and reserves attributable to owners of the parent		**48,558**	**42,679**
Non-controlling interests		38,762	38,790
Total liabilities and shareholders' equity		**298,590**	**281,627**

Consolidated income statement

millions of €

	Note	2022	2021	2020
Net revenue	20	**114,197**	**107,610**	**99,946**
Of which: interest income calculated using the effective interest method		589	276	278
Other operating income	21	4,653	1,300	2,873
Changes in inventories	22	26	(8)	(15)
Own capitalized costs	23	2,852	2,841	2,752
Goods and services purchased	24	(52,926)	(49,418)	(44,370)
Personnel costs	25	(19,371)	(18,394)	(18,792)
Other operating expenses	26	(6,383)	(4,261)	(4,493)
Impairment losses on financial assets		(1,235)	(637)	(862)
Gains (losses) from the write-off of financial assets measured at amortized cost		(24)	(122)	(188)
Other		(5,124)	(3,502)	(3,443)
EBITDA		**43,049**	**39,671**	**37,900**
Depreciation, amortization and impairment losses	27	(27,635)	(27,091)	(25,534)
Profit (loss) from operations (EBIT)	28	**15,414**	**12,580**	**12,366**
Finance costs	29	(5,292)	(4,416)	(4,029)
Interest income		387	611	589
Interest expense		(5,679)	(5,027)	(4,617)
Share of profit (loss) of associates and joint ventures accounted for using the equity method	30	(524)	(102)	(11)
Other financial income (expense)	31	1,379	(435)	131
Profit (loss) from financial activities		**(4,437)**	**(4,953)**	**(3,908)**
Profit (loss) before income taxes		**10,977**	**7,628**	**8,458**
Income taxes	32	(1,937)	(1,732)	(1,858)
Profit (loss) after taxes from continuing operations		**9,039**	**5,896**	**6,600**
Profit (loss) after taxes from discontinued operation	33	**443**	**207**	**147**
Profit (loss)		**9,482**	**6,103**	**6,747**
Profit (loss) attributable to				
Owners of the parent (net profit (loss))		8,001	4,176	4,158
Non-controlling interests	34	1,481	1,927	2,589
Earnings per share	36			
Profit (loss) from continuing operations attributable to the owners of the parent (net profit (loss))	millions of €	7,558	3,969	4,011
Profit (loss) from discontinued operation attributable to the owners of the parent (net profit (loss))	millions of €	443	207	147
Profit (loss) attributable to the owners of the parent (net profit (loss))	millions of €	8,001	4,176	4,158
Adjusted weighted average number of ordinary shares outstanding (basic/diluted)	millions	4,972	4,813	4,743
Earnings per share from continuing operations (basic/diluted)	€	**1.52**	**0.82**	**0.85**
Earnings per share from discontinued operation (basic/diluted)	€	**0.09**	**0.04**	**0.03**
Earnings per share (basic/diluted)	€	**1.61**	**0.87**	**0.88**

In light of the IFRS Interpretations Committee's agenda decision published in May 2022 on transactions involving the commercial resale of software, Deutsche Telekom has implemented changes to its accounting practices with respect to the recognition of gross vs. net revenues, effective the start of the third quarter of 2022. Prior-year comparatives were adjusted retrospectively.

As a result of the agreement concluded on July 13, 2022, from the third quarter of 2022, the GD tower companies are recognized in the consolidated financial statements as a discontinued operation. Prior-year comparatives were adjusted retrospectively.

Consolidated statement of comprehensive income

millions of €

	2022	2021	2020
Profit (loss)	**9,482**	**6,103**	**6,747**
Items not subsequently reclassified to profit or loss (not recycled)			
Gains (losses) from the remeasurement of equity instruments	(46)	112	62
Gains (losses) from the remeasurement of defined benefit plans	1,841	1,426	(1,358)
Income taxes relating to components of other comprehensive income	(835)	(261)	142
	961	**1,278**	**(1,154)**
Items subsequently reclassified to profit or loss (recycled), if certain reasons are given			
Exchange differences on translating foreign operations			
Recognition of other comprehensive income in income statement	0	61	0
Change in other comprehensive income (not recognized in income statement)	4,071	5,142	(6,578)
Gains (losses) from the remeasurement of debt instruments			
Recognition of other comprehensive income in income statement	1,037	417	491
Change in other comprehensive income (not recognized in income statement)	(1,060)	(497)	(481)
Gains (losses) from hedging instruments (designated risk components)			
Recognition of other comprehensive income in income statement	123	17	431
Change in other comprehensive income (not recognized in income statement)	762	296	(1,446)
Gains (losses) from hedging instruments (hedging costs)[a]			
Recognition of other comprehensive income in income statement	1	2	2
Change in other comprehensive income (not recognized in income statement)	(51)	60	(30)
Share of profit (loss) of investments accounted for using the equity method			
Recognition of other comprehensive income in income statement	0	0	0
Change in other comprehensive income (not recognized in income statement)	0	0	1
Income taxes relating to components of other comprehensive income	(231)	(81)	283
	4,654	**5,417**	**(7,327)**
Other comprehensive income	**5,615**	**6,694**	**(8,481)**
Total comprehensive income	**15,097**	**12,798**	**(1,734)**
Total comprehensive income attributable to			
Owners of the parent	11,272	8,010	(496)
Non-controlling interests	3,825	4,788	(1,238)

[a] The hedging costs relate entirely to cross-currency basis spreads. For further information, please refer to Note 42 "Financial instruments and risk management."

Consolidated statement of changes in equity

millions of €

	Issued capital and reserves attributable to owners of the parent					
	Equity contributed				Consolidated shareholders' equity generated	
	Number of shares thousands	Issued capital	Treasury shares	Capital reserves	Retained earnings including carry-forwards	Net profit (loss)
Balance at January 1, 2020	**4,761,459**	**12,189**	**(47)**	**55,029**	**(38,709)**	**3,867**
Changes in the composition of the Group						
Transactions with owners				7,356		
Unappropriated profit (loss) carried forward					3,867	(3,867)
Dividends					(2,846)	
Capital increase at Deutsche Telekom AG						
Capital increase from share-based payment				256		
Share buy-back/shares held in a trust deposit			1			
Profit (loss)						4,158
Other comprehensive income					(1,218)	
Total comprehensive income						
Transfer to retained earnings					1	
Balance at December 31, 2020	**4,761,459**	**12,189**	**(46)**	**62,640**	**(38,905)**	**4,158**
Balance at January 1, 2021	**4,761,459**	**12,189**	**(46)**	**62,640**	**(38,905)**	**4,158**
Changes in the composition of the Group						
Transactions with owners				(183)		
Unappropriated profit (loss) carried forward					4,158	(4,158)
Dividends					(2,846)	
Capital increase at Deutsche Telekom AG	225,000	576		1,063		
Capital increase from share-based payment				253		
Share buy-back/shares held in a trust deposit			9			
Profit (loss)						4,176
Other comprehensive income					1,125	
Total comprehensive income						
Transfer to retained earnings					110	
Balance at December 31, 2021	**4,986,459**	**12,765**	**(37)**	**63,773**	**(36,358)**	**4,176**
Balance at January 1, 2022	**4,986,459**	**12,765**	**(37)**	**63,773**	**(36,358)**	**4,176**
Changes in the composition of the Group						
Transactions with owners				(2,598)		
Unappropriated profit (loss) carried forward					4,176	(4,176)
Dividends					(3,182)	
Capital increase at Deutsche Telekom AG						
Capital increase from share-based payment				357		
Share buy-back/shares held in a trust deposit			2			
Profit (loss)						8,001
Other comprehensive income					892	
Total comprehensive income						
Transfer to retained earnings					(17)	
Balance at December 31, 2022	**4,986,459**	**12,765**	**(35)**	**61,532**	**(34,489)**	**8,001**

Issued capital and reserves attributable to owners of the parent										
Total other comprehensive income								Total	Non-controlling interests	Total shareholders' equity
Translation of foreign operations	Revaluation surplus	Equity instruments measured at fair value through other comprehensive income (IFRS 9)	Debt instruments measured at fair value through other comprehensive income (IFRS 9)	Hedging instruments: designated risk components (IFRS 9)	Hedging instruments: hedging costs (IFRS 9)	Investments accounted for using the equity method	Taxes			
(808)	**(21)**	**101**	**(6)**	**130**	**51**	**0**	**(69)**	**31,707**	**14,524**	**46,231**
								0	17,329	17,329
(339)			12	380			(109)	7,299	5,967	13,266
								0	0	0
								(2,846)	(215)	(3,061)
								0	0	0
								256	262	517
								1	0	1
								4,158	2,589	6,747
(2,945)		62	(6)	(733)	(27)	1	213	(4,654)	(3,827)	(8,481)
								(496)	**(1,238)**	**(1,734)**
	7	(7)				(1)		0	0	0
(4,092)	**(14)**	**156**	**0**	**(223)**	**24**	**0**	**34**	**35,922**	**36,628**	**72,550**
(4,092)	**(14)**	**156**	**0**	**(223)**	**24**	**0**	**34**	**35,922**	**36,628**	**72,550**
								0	(181)	(181)
				5			(1)	(179)	(48)	(227)
								0	0	0
								(2,846)	(292)	(3,138)
(83)				(64)			19	1,511	(2,358)	(847)
								253	252	505
								9	0	9
								4,176	1,927	6,103
2,427		107	(37)	227	62		(77)	3,833	2,861	6,694
								8,010	**4,788**	**12,798**
	6	(120)					3	0	0	0
(1,747)	**(7)**	**143**	**(37)**	**(56)**	**86**	**0**	**(22)**	**42,679**	**38,790**	**81,469**
(1,747)	**(7)**	**143**	**(37)**	**(56)**	**86**	**0**	**(22)**	**42,679**	**38,790**	**81,469**
								0	(583)	(583)
57			(3)	(37)			12	(2,569)	(3,428)	(5,997)
								0	0	0
								(3,182)	(197)	(3,379)
								0	0	0
								357	355	711
								2	0	2
								8,001	1,481	9,482
1,911		(45)	(10)	787	(50)		(214)	3,271	2,344	5,615
								11,272	**3,825**	**15,097**
	7	12					(2)	0	0	0
221	**0**	**109**	**(50)**	**695**	**35**	**0**	**(227)**	**48,558**	**38,762**	**87,320**

Consolidated statement of cash flows

millions of €

	Note	2022	2021	2020
Profit (loss) before income taxes	37	**11,703**	**7,918**	**8,677**
Depreciation, amortization and impairment losses		27,827	27,482	25,829
(Profit) loss from financial activities		4,455	5,139	4,128
Profit (loss) on the disposal of fully consolidated subsidiaries		(2,661)	(130)	(10)
(Income) loss from the sale of stakes accounted for using the equity method		(71)	(13)	0
Other non-cash transactions		1,508	226	(857)
(Gains) losses from the disposal of intangible assets and property, plant and equipment		(76)	161	368
Change in assets carried as operating working capital		(600)	(1,475)	(2,702)
Change in other operating assets		(813)	(1,059)	(509)
Change in provisions		117	(152)	20
Change in liabilities carried as operating working capital		789	241	(2,108)
Change in other operating liabilities		(60)	(260)	(239)
Income taxes received (paid)		(902)	(893)	(690)
Dividends received		11	8	6
Net payments from entering into, canceling or changing the terms and conditions of interest rate derivatives		0	(1)	(2,207)
Cash generated from operations		**41,228**	**37,191**	**29,706**
Interest paid		(6,756)	(6,158)	(7,252)
Interest received		1,347	1,138	1,289
Net cash from operating activities		**35,819**	**32,171**	**23,743**
Of which: from discontinued operation		712	808	646
Cash outflows for investments in				
Intangible assets		(7,551)	(12,749)	(5,756)
Property, plant and equipment		(16,563)	(13,616)	(12,938)
Non-current financial assets		(683)	(336)	(566)
Payments for publicly funded investments in the broadband build-out		(377)	(436)	(507)
Proceeds from public funds for investments in the broadband build-out		435	420	431
Changes in cash and cash equivalents in connection with the acquisition of control of subsidiaries and associates		(52)	(1,617)	(5,028)
Proceeds from disposal of				
Intangible assets		3	2	3
Property, plant and equipment		436	137	233
Non-current financial assets		173	352	112
Changes in cash and cash equivalents in connection with the loss of control of subsidiaries and associates		4,208	352	1,094
Net change in short-term investments and marketable securities and receivables		(2,335)	89	273
Other		1	0	(2)
Net cash (used in) from investing activities		**(22,306)**	**(27,403)**	**(22,649)**
Of which: from discontinued operation		(277)	(296)	(204)
Proceeds from issue of current financial liabilities		9,686	4,431	19,018
Repayment of current financial liabilities		(15,528)	(18,040)	(34,939)
Proceeds from issue of non-current financial liabilities		4,534	12,925	34,131
Repayment of non-current financial liabilities		0	0	(1,699)
Dividend payments (including to other shareholders of subsidiaries)		(3,385)	(3,145)	(3,067)
Principal portion of repayment of lease liabilities		(4,951)	(6,458)	(5,371)
Cash inflows from transactions with non-controlling entities		29	14	53
Cash outflows from transactions with non-controlling entities		(5,823)	(506)	(565)
Other		0	0	0
Net cash (used in) from financing activities		**(15,438)**	**(10,779)**	**7,561**
Of which: from discontinued operation		(192)	(193)	(153)
Effect of exchange rate changes on cash and cash equivalents		93	620	(1,036)
Changes in cash and cash equivalents associated with non-current assets and disposal groups held for sale		(18)	68	(73)
Net increase (decrease) in cash and cash equivalents		**(1,850)**	**(5,323)**	**7,547**
Cash and cash equivalents, at the beginning of the year		**7,617**	**12,939**	**5,393**
Cash and cash equivalents, at the end of the year		**5,767**	**7,617**	**12,939**

As a result of the agreement concluded on July 13, 2022, from the third quarter of 2022, the GD tower companies are recognized in the consolidated financial statements as a discontinued operation. The consolidated statement of cash flows continues to include the discontinued operation in the Group Development operating segment. The top line of the consolidated statement of cash flows is profit before income taxes, which includes the profit of both the continuing operations and the discontinued operation. In the consolidated statement of cash flows, the contributions by the GD tower companies are each stated in a separate “of which” line item.

Notes to the consolidated financial statements

Summary of accounting policies

Notes to the consolidated statement of financial position

Notes to the consolidated income statement

Other disclosures

Summary of accounting policies

General information

Deutsche Telekom AG (hereinafter referred to as “Deutsche Telekom” or the “Group”) is one of the world’s leading service providers in the telecommunications and information technology sector. Deutsche Telekom offers its customers all kinds of products and services for connected life and work. The Group reports on the operating segments Germany, United States, Europe, Systems Solutions, and Group Development, as well as on the Group Headquarters & Group Services segment.

The Company was entered into the commercial register of the Bonn District Court (Amtsgericht – HRB 6794) as a stock corporation under the name Deutsche Telekom AG on January 2, 1995.

The Company has its registered office in Bonn, Germany. Its address is Deutsche Telekom AG, Friedrich-Ebert-Allee 140, 53113 Bonn.

The Declaration of Conformity with the German Corporate Governance Code required pursuant to § 161 of the German Stock Corporation Act (Aktiengesetz – AktG) has been released and made available to shareholders. The Declaration of Conformity can also be found on the website of Deutsche Telekom in accordance with § 161 AktG.

Declaration of Conformity

The shares of Deutsche Telekom AG are traded on the Frankfurt/Main Stock Exchange as well as on other stock exchanges.

The annual financial statements as well as the consolidated financial statements of Deutsche Telekom AG, which have an unqualified audit opinion from Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Düsseldorf, are published in the Federal Gazette (Bundesanzeiger). The Annual Report is available on Deutsche Telekom’s website.

Publications

The consolidated financial statements of Deutsche Telekom for the 2022 financial year were released for publication by the Board of Management on February 14, 2023.

Basis of preparation

The consolidated financial statements of Deutsche Telekom are prepared in accordance with the International Financial Reporting Standards (IFRS) as adopted by the European Union (EU), as well as with the regulations under commercial law as set forth in § 315e (1) of the German Commercial Code (Handelsgesetzbuch – HGB). The term IFRS is consistently used in the following.

The financial year corresponds to the calendar year. The consolidated statement of financial position includes comparative amounts for one reporting date. The consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of changes in equity, and the consolidated statement of cash flows include two comparative years.

Presentation in the statement of financial position differentiates between current and non-current assets and liabilities, which – where required – are broken down further by their respective maturities in the notes to the consolidated financial statements. The consolidated income statement is presented using the total cost method. Here, the costs incurred in the financial year are broken down by cost type and the costs capitalized under inventories as well as under intangible assets and property, plant and equipment are presented separately as changes in inventories or own capitalized costs. The consolidated financial statements are prepared in euros.

The financial statements of Deutsche Telekom AG and its subsidiaries included in the consolidated financial statements were prepared using uniform group accounting policies.

The financial statements are prepared on a going concern basis.

Initial application of standards, interpretations, and amendments in the financial year

Pronouncement	Title	To be applied by Deutsche Telekom from	Changes	Expected impact on the presentation of Deutsche Telekom's results of operations and financial position
IFRSs endorsed by the EU				
Amendments to IAS 16	Proceeds before Intended Use	Jan. 1, 2022	The amendment prohibits entities from deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. The definition of the costs of testing is specified. Revenue and cost that relate to items produced that are not an output of the entity's ordinary activities must be presented separately. The line item in the statement of comprehensive income that includes such revenue must be stated.	No material impact.
Amendments to IAS 37	Onerous Contracts – Cost of Fulfilling a Contract	Jan. 1, 2022	The amendment clarifies that the cost of fulfilling a contract includes all directly attributable costs. The cost of fulfilling the contract includes both the incremental costs of fulfilling that contract (such as direct wage and material costs) and an allocation of other costs that relate directly to fulfilling contracts. In addition, it is clarified that before a provision for an onerous contract is established, an entity should recognize any impairment loss that has occurred on assets used in (previously: dedicated to) fulfilling the contract.	No material impact.
Amendments to IFRS 3	Reference to the Conceptual Framework	Jan. 1, 2022	A reference was included in IFRS 3 to the revised 2018 Conceptual Framework for Financial Reporting. Requirement that, for identifying liabilities within the scope of IAS 37 or IFRIC 21, an acquirer should apply IAS 37 or IFRIC 21 (instead of the Conceptual Framework) to identify the liabilities it has assumed in a business combination. Addition of an explicit statement that an acquirer should not recognize contingent assets acquired in a business combination.	No material impact.
Annual Improvements Project	Annual Improvements to IFRSs 2018–2020 Cycle	Jan. 1, 2022	Revision of specific aspects in IFRS 1, IFRS 9, IFRS 16, and IAS 41.	No material impact.

Standards, interpretations, and amendments issued, but not yet to be applied

Pronouncement	Title	To be applied by Deutsche Telekom from	Changes	Expected impact on the presentation of Deutsche Telekom's results of operations and financial position
IFRSs endorsed by the EU				
IFRS 17	Insurance Contracts	Jan. 1, 2023	IFRS 17 governs the accounting for insurance contracts and replaces IFRS 4.	No material impact.
Amendments to IFRS 17	Insurance Contracts	Jan. 1, 2023	The initial application of IFRS 17 is postponed until January 1, 2023. The fundamental principles under IFRS 17 remain unaffected. The amendments to the standard, which refer to specific topics, are aimed at helping entities implement the standard and, at the same time, avoiding a significant loss of useful information. The option for companies to delay application of IFRS 9 until the initial application of IFRS 17 has also been extended until January 1, 2023.	No material impact.
Amendments to IFRS 17	Initial Application of IFRS 17 and IFRS 9 – Comparative Information	Jan. 1, 2023	Supplementary transition option relating to comparatives in the first reporting year, which allows for the option of a different classification pursuant to IFRS 9 (classification overlay) for the comparative periods in the year of first-time application of both standards. In addition, for financial assets that relate to insurance contracts, existing classification options under IFRS 9 can be exercised again if IFRS 9 was applied prior to the first-time application of IFRS 17.	No impact.

[a] For standards not yet endorsed by the EU, the date of first-time adoption scheduled by the IASB is assumed for the time being as the likely date of first-time adoption.

Pronouncement	Title	To be applied by Deutsche Telekom from	Changes	Expected impact on the presentation of Deutsche Telekom's results of operations and financial position
Amendments to IAS 1 and IFRS Practice Statement 2	Presentation of Financial Statements	Jan. 1, 2023	The amendments to IAS 1 will require entities to disclose their material accounting policies in the future rather than their significant accounting policies. The amendments to IFRS Practice Statement 2 "Making Materiality Judgements" contain guidance on applying materiality judgments to accounting policy disclosures.	No material impact.
Amendments to IAS 8	Definition of Accounting Estimates	Jan. 1, 2023	The amendments relate to the definition of accounting estimates. It is clarified how entities can distinguish between changes to accounting policies and to accounting estimates.	No material impact.
Amendments to IAS 12	Deferred Tax related to Assets and Liabilities arising from a Single Transaction	Jan. 1, 2023	IAS 12 provides for exemptions to the recognition of deferred taxes in specific cases. It was previously unclear as to whether the initial recognition exemptions also apply for transactions in which the initial recognition of an asset and a liability gives rise to equal taxable and deductible temporary differences. The exemptions apply specifically to leases and restoration obligations. The IASB now clarifies that the exemption relating to the recognition of deferred taxes is not applicable in the aforementioned configuration.	No material impact.
IFRSs not yet endorsed by the EU[a]				
Amendments to IAS 1	Classification of Liabilities as Current or Non-current	Jan. 1, 2024	The amendments clarify that the classification of liabilities as current or non-current should be based on rights that are in existence at the end of the reporting period. The amendment also clarifies the definition of settlement of a liability.	No material impact.
Amendments to IAS 1	Non-current Liabilities with Covenants	Jan. 1, 2024	The amendments clarify that covenants in loan agreements with which an entity is required to comply only after the reporting date do not affect the classification of a liability on the reporting date as current or non-current. By contrast, covenants with which an entity must comply on or before the reporting date affect the classification.	No material impact expected.
Amendments to IFRS 16	Lease Liability in a Sale and Leaseback	Jan. 1, 2024	The amendments require a seller-lessee to subsequently measure lease liabilities arising from a sale and leaseback transaction in a way that it does not recognize any amount of the gain or loss that relates to the right of use it retains. The requirements for initial measurement of the right-of-use asset have not been amended. By contrast, the change to the subsequent measurement of the lease liability requires variable lease payments that do not depend on an index or interest rate to also be considered in the initial measurement of the lease liability from a sale and leaseback transaction.	No material impact expected.

[a] For standards not yet endorsed by the EU, the date of first-time adoption scheduled by the IASB is assumed for the time being as the likely date of first-time adoption.

Changes in accounting policies and changes in the reporting structure

Deutsche Telekom made the following changes to its accounting policies or reporting structure in the reporting period:

Gross vs. net recognition of revenues – change in the principal/agent consideration. In cases where Deutsche Telekom is in an intermediary position between a supplier and a customer, it must be assessed whether Deutsche Telekom itself supplies the relevant product or provides the service requested by the customer as a principal or merely acts as an agent for the supplier. The outcome determines whether Deutsche Telekom must recognize revenue on a gross basis (as a principal) or net (as an agent) of the costs incurred to the supplier, i.e., only in the amount of the remaining margin. The determining factor is control over the specified good or service. Depending on the facts and circumstances, the specified good that a company controls as principal may also be a right to the third party's good or service. For Deutsche Telekom, the question arises particularly in the case of branded digital products (e.g., streaming services, software licenses, cloud-based software as a service) provided by and purchased from third parties and sold to customers as part of Deutsche Telekom's product portfolio.

Under Deutsche Telekom's previous interpretation, for considering itself to be principal it was sufficient that Deutsche Telekom obtains from the supplier a contractual, enforceable right to purchase the supplier's predefined products "on demand" at any time at predefined prices and to resell them to customers in its own name and for its own account at a price determined at its own discretion. In light of the IFRS Interpretations Committee's agenda decision published in May 2022 on transactions involving the commercial resale of software, Deutsche Telekom has implemented comprehensive changes to its accounting practices with respect to distinguishing between gross and net revenues, effective the start of the third quarter of 2022. In considering the change in policy, Deutsche Telekom determines that it only acts as a principal and thus recognizes revenues on a gross basis in the aforementioned cases if the customer does not enter into any contractual relationship with the third-party supplier, Deutsche Telekom bears primary responsibility for product acceptance and customer support, and is in a position to set the price for the customer. In contrast to its previous accounting practice, the application of the new policy results in a decline both in revenues and in goods and services purchased of EUR 1.3 billion in each case for the 2022 financial year, and of EUR 1.0 billion in each case for the prior year.

Reassignment of the security business. Effective July 1, 2022, Deutsche Telekom reassigned its subsidiary Deutsche Telekom Security GmbH and the security business in Germany, Austria, Switzerland, Hungary, and Slovakia from the Systems Solutions operating segment to the Germany operating segment in order to maintain a consistent focus on implementing the Group strategy pillar "Lead in business productivity." Prior-year comparatives in both of the segments affected have accordingly been adjusted with retrospective effect in segment reporting.

Accounting policies

Key assets and liabilities shown in the consolidated statement of financial position are measured as follows:

Items in the statement of financial position	Measurement principle
Assets	
Current assets	
Cash and cash equivalents	Amortized cost
Trade receivables	Depending on the underlying business model in each case: at amortized cost, at fair value through other comprehensive income with recycling to profit or loss, or at fair value through profit or loss
Contract assets	Amortized cost
Current recoverable income taxes	Amount expected to be recovered from the taxation authorities, using the tax rates that have been enacted or substantively enacted by the end of the reporting period
Other financial assets	
Originated loans and other receivables	Depending on the underlying business model in each case: at amortized cost, at fair value through other comprehensive income with recycling to profit or loss, or at fair value through profit or loss
Derivative financial assets	At fair value through profit or loss or, in the case of certain hedging relationships, at fair value through other comprehensive income with recycling to profit or loss
Inventories	Lower of net realizable value and cost
Non-current assets and disposal groups held for sale	Lower of carrying amount or fair value less costs of disposal (including allocable liabilities)
Non-current assets	
Intangible assets	
Of which: with finite useful lives	Amortized cost or lower recoverable amount
Of which: with indefinite useful lives (including goodwill)	Cost or lower recoverable amount (impairment-only approach)
Property, plant and equipment	Amortized cost or lower recoverable amount
Right-of-use assets	Amortized cost or lower recoverable amount
Capitalized contract costs	Amortized cost or lower recoverable amount
Investments accounted for using the equity method	Pro rata value of the investment's equity carried forward or lower recoverable amount
Other financial assets	
Originated loans and other receivables	Depending on the underlying business model in each case: at amortized cost, at fair value through other comprehensive income with recycling to profit or loss, or at fair value through profit or loss
Equity instruments	Fair value through other comprehensive income without recycling to profit or loss
Derivative financial assets	At fair value through profit or loss or, in the case of specific hedge accounting, at fair value through other comprehensive income with recycling to profit or loss
Deferred tax assets	Non-discounted amount measured at the tax rates that are expected to apply to the period when the asset is realized or the liability settled

Items in the statement of financial position	Measurement principle
Liabilities	
Current liabilities	
Financial liabilities	
Non-derivative interest-bearing and non-interest-bearing liabilities	Amortized cost
Derivative financial liabilities	At fair value through profit or loss or, in the case of certain hedging relationships, at fair value through other comprehensive income with recycling to profit or loss
Lease liabilities	Amortized cost
Trade payables	Amortized cost
Income tax liabilities	Amount expected to be paid to the taxation authorities, using the tax rates that have been enacted or substantively enacted by the end of the reporting period
Other provisions	Present value of the settlement amount
Contract liabilities	Amortized cost
Non-current liabilities	
Financial liabilities	
Non-derivative interest-bearing and non-interest-bearing liabilities	Amortized cost
Derivative financial liabilities	At fair value through profit or loss or, in the case of certain hedging relationships, at fair value through other comprehensive income with recycling to profit or loss
Lease liabilities	Amortized cost
Provisions for pensions and other employee benefits	Actuarial projected unit credit method
Other provisions	Present value of the settlement amount
Contract liabilities	Amortized cost
Deferred tax liabilities	Non-discounted amount measured at the tax rates that are expected to apply to the period when the asset is realized or the liability settled

The material principles on recognition and measurement set out below were applied uniformly to all accounting periods presented in these consolidated financial statements.

Intangible assets

Intangible assets with finite useful lives, including 5G, LTE, UMTS, and GSM licenses, are measured at cost and generally amortized on a straight-line basis over their useful lives. Such assets are impaired if their recoverable amount, which is measured at the higher of fair value less costs of disposal and value in use, is lower than the carrying amount. Indefinite-lived intangible assets (mobile communications licenses granted by the Federal Communications Commission in the United States (FCC licenses)) are carried at cost. While FCC licenses are issued for a fixed time, renewals of FCC licenses have occurred routinely and at negligible costs. Moreover, Deutsche Telekom has determined that there are currently no legal, regulatory, contractual, competitive, economic, or other factors that limit the useful lives of the FCC licenses, and therefore treats the FCC licenses as an indefinite-lived intangible asset. They are not amortized, but tested for impairment annually or whenever there are indications of impairment and, if necessary, written down to the recoverable amount. If the reasons for recognizing the original impairment loss no longer apply, impairment losses are reversed taking amortization into account, i.e., not exceeding the value that would have been applied if no impairment losses had been recognized in prior periods.

Intangible assets may also be acquired in connection with a frequency or spectrum exchange. The costs of intangible assets acquired in such a barter transaction are measured at fair value if the swap has commercial substance and the fair value of the asset received and the asset given up is reliably measurable. If the exchange transaction lacks commercial substance or the fair value of neither the asset received nor the asset given up is reliably measurable, the carrying amount of the asset given up is used as the acquisition costs of the asset received.

Limited-term spectrum leases normally satisfy the recognition criteria because the lessors fulfill their performance obligations on entering into the contract, which means there are no more executory contracts. Acquired television, film, and sports rights (media broadcasting rights) are recognized if the content is sufficiently developed to satisfy the identifiability criterion.

On initial recognition, the intangible asset and the corresponding financial liability are measured only on the basis of the minimum contract term. Where a right of termination exists, the period beyond the effective date of the earliest possible termination is not considered on initial recognition. Where a right of renewal exists, the renewal period is not considered on initial recognition.

The useful lives and the amortization methods of the intangible assets are reviewed at least at each financial year-end. If expectations differ from previous estimates, the changes are recognized as changes in accounting estimates in accordance with IAS 8.

Amortization of mobile communications licenses begins as soon as the related network is ready for use. The useful lives of mobile communications licenses are determined based on several factors, including the term of the licenses granted by the respective regulatory body in each country, the availability and expected cost of renewing the licenses, as well as the development of future technologies.

The useful lives of Deutsche Telekom's most important mobile communications licenses are as follows:

Mobile communications licenses	Years
FCC licenses	Indefinite
5G licenses	19 to 23
LTE licenses	6 to 25
UMTS licenses	17 to 19
GSM licenses	7 to 27

Expenditures for internally generated intangible assets incurred during the development phase are capitalized if they meet the criteria for recognition as assets, and are amortized over their useful lives. Research expenditures are expensed as incurred. Development is the application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems, or services prior to the commencement of commercial production or use. Examples of activities typically included in development are the design, construction, and testing of pre-production or pre-use prototypes and models involving new technology. The development phase is deemed complete when the IT department has formally documented that the capitalized asset is ready for its intended use.

Goodwill is not amortized, but is tested for impairment based on the recoverable amount of the cash-generating unit to which the goodwill is allocated (impairment-only approach). The impairment test is carried out on a regular basis at the end of each financial year, as well as whenever there are indications that a carrying amount of the cash-generating unit is impaired.

Property, plant and equipment

Property, plant and equipment is carried at cost less straight-line depreciation, and impairment losses, if applicable. The depreciation period is based on the expected useful life of the assets. Items of property, plant and equipment are depreciated pro rata temporis in the year of acquisition. The residual values, useful lives, and the depreciation methods of the assets are reviewed at least at each financial year-end. If expectations differ from previous estimates, the changes are recognized as changes in accounting estimates in accordance with IAS 8. In addition to directly attributable costs, the costs of internally developed assets include proportionate indirect material and labor costs, as well as administrative expenses relating to production or the provision of services. In addition to the purchase price and costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management, costs also include the estimated costs for dismantling and removing the asset, and restoring the site on which it is located. If an item of property, plant and equipment consists of several components with different estimated useful lives, those components that are significant are depreciated over their individual useful lives. Maintenance and repair costs are expensed as incurred. If an asset is owned and a portion is used as an item of property, plant and equipment while another physically distinct portion of the owned asset is leased under an operating lease (e.g., office floors of a building or individual optical fibers of a cable), the portion of the asset that is leased is not presented separately.

Public investment grants reduce the cost of the property, plant and equipment for which the grants were made.

Investment grants are recognized when there is reasonable assurance that the entity will comply with the conditions attached to them, and the grants will be received in the full amount. If this reasonable assurance already exists when the contract is being concluded, the grant is recognized in full under other financial assets upon conclusion of the agreement, with a matching non-financial other liability for the build-out obligation. In subsequent periods, the financial asset measured at amortized cost is reduced upon receipt of the payments. The other liability is derecognized on a pro rata basis as the build-out progresses, reducing the carrying amount of the publicly funded property, plant and equipment. If there is not yet reasonable assurance, only the installment payments received are recognized, with a matching non-financial other liability. As soon as there is reasonable assurance, outstanding grants are recognized under other financial assets, and the carrying amounts of the other liability and the publicly funded property, plant and equipment are adjusted in accordance with the actual build-out progress. All grants received are recognized in net cash used in/from investing activities.

On disposal of an item of property, plant and equipment or when no future economic benefits are expected from its use or disposal, the carrying amount of the item is derecognized. The gain or loss arising from the disposal of an item of property, plant and equipment is the difference between the net disposal proceeds, if any, and the carrying amount of the item and is recognized as other operating income or other operating expenses when the item is derecognized. The useful lives of the main asset classes are shown in the table below:

Asset classes	Years[a]
Buildings	25 to 50
Technical equipment and machinery	2 to 35
Other equipment, operating and office equipment	2 to 23

[a] The useful lives indicated represent the maximum number of years as specified by the Group. The actual useful lives may be shorter due to contractual arrangements or other specific factors such as time and location.

Leasehold improvements are depreciated over the shorter of their useful lives or terms of the lease.

Borrowing costs
Borrowing costs that are directly attributable to the acquisition, construction, or production of a qualifying asset are capitalized as part of the cost of that asset. Deutsche Telekom defines qualifying assets as construction projects or other assets for which a period of at least twelve months is necessary in order to get them ready for their intended use or sale. Borrowing costs relating to assets measured at fair value and to inventories that are manufactured or produced in large quantities on a repetitive basis are not capitalized.

Impairments of intangible assets, items of property, plant and equipment, and right-of-use assets
Impairments are identified by comparing the carrying amount with the recoverable amount. If individual assets do not generate future cash flows independently of other assets, recoverability is assessed on the basis of the larger cash-generating unit to which the assets belong. At each reporting date, Deutsche Telekom assesses whether there is any indication that an asset may be impaired. If any such indication exists, the recoverable amount of the asset or cash-generating unit must be determined. In addition, annual impairment tests are carried out for intangible assets with indefinite useful lives (goodwill and FCC licenses) at regular intervals. For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each of the cash-generating units that are expected to benefit from the synergies of the combination. If the carrying amount of the cash-generating unit to which goodwill is allocated exceeds its recoverable amount, goodwill allocated to this cash-generating unit must be reduced in the amount of the difference. Impairment losses for goodwill must not be reversed. If the impairment loss recognized for the cash-generating unit exceeds the carrying amount of the allocated goodwill, the additional amount of the impairment loss is to be distributed on a pro rata basis to the assets allocated to the cash-generating unit. The fair values or values in use (if measurable) of the individual assets are to be considered to be the minimum values. If the reasons for previously recognized impairments no longer exist, the impairment losses on the assets concerned (with the exception of goodwill) must be reversed.

The recoverable amount of a cash-generating unit is measured at the higher of fair value less costs of disposal and the value in use. The recoverable amount is generally determined by means of a discounted cash flow (DCF) calculation, unless it can be determined on the basis of a market price. These DCF calculations use projections that are based on financial budgets approved by management covering a ten-year period and are also used for internal purposes. The planning horizon reflects the assumptions for short- to mid-term market developments. Cash flows beyond the ten-year period are extrapolated using appropriate growth rates. For the key assumptions on which management has based its calculation of the recoverable amount, please refer to the explanations provided under “Judgments and estimates,” further on in this section.

Inventories
Inventories are carried at cost at initial recognition and are subsequently measured at the lower of cost and net realizable value. Cost comprises all costs of purchase, costs of conversion, and other costs incurred in bringing the inventories to their present location and condition. Cost is measured using the weighted average cost method. Net realizable value is the estimated standalone selling price in the ordinary course of business less the estimated costs of completion and the necessary estimated selling expenses.

Non-current assets and disposal groups held for sale
Non-current assets and disposal groups held for sale are classified as such if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. These assets are measured at the lower of the carrying amount and fair value less costs of disposal and classified as non-current assets and disposal groups held for sale. Such assets are no longer depreciated. Impairment of such assets is recognized if fair value less costs of disposal is lower than the carrying amount. If fair value less costs of disposal subsequently increases, the impairment loss previously recognized must be reversed. The reversal of impairment losses is limited to the impairment losses previously recognized for the assets concerned. If the requirements for the classification of assets as held for sale are no longer met, the assets may no longer be shown as held for sale. The assets are to be measured at the lower of the carrying amount that would have applied if the asset had not been classified as held for sale, and the recoverable amount at the date at which the requirements for the classification as held for sale are no longer met.

Employee benefits
Deutsche Telekom maintains **defined benefit pension plans** in various countries on the basis of the pensionable compensation of its employees and their length of service. Some of these pension plans are financed through external pension funds and some through incorporation in a contractual trust agreement (CTA). Provisions for pensions are actuarially measured using the projected unit credit method for defined benefit pension plans, taking into account not only the pension obligations and vested pension rights known at the reporting date, but also expected future salary and benefit increases. The interest rate used to determine the present value of the obligations is generally set on the basis of the yields on high-quality corporate bonds in the respective currency area. The return on plan assets and interest expenses resulting from the unwinding of the discount are reported in profit/loss from financial activities. Service cost is classified as operating expenses. Past service cost resulting from a change in the pension plan are immediately recognized in the income statement in the period in which the change took effect. Gains and losses arising from adjustments and changes in actuarial assumptions are recognized immediately and in full in the period in which they occur outside profit or loss within equity. Some Group entities grant defined contribution plans to their employees in accordance with statutory or contractual requirements, with the payments being made to state or private pension insurance funds. Under defined contribution plans, the employer does not assume any other obligations above and beyond the payment of contributions to an external fund. The amount of the future pension payments will exclusively depend on the contribution made by the employer (and their employees, if applicable) to the external fund, including income from the investment of such contributions. The amounts payable are expensed when the obligation to pay the amounts is established, and classified as expenses.

Up until December 31, 2012, Deutsche Telekom maintained a joint pension fund, **Bundes-Pensions-Service für Post und Telekommunikation e.V.**, Bonn (Federal Pension Service for Post and Telecommunications – BPS-PT), together with Deutsche Post AG and Deutsche Postbank AG for civil-servant pension plans. BPS-PT made pension and allowance payments to retired employees and their surviving dependents who are entitled to pension payments as a result of civil-servant status. The German Act on the Reorganization of the Civil Service Pension Fund (Gesetz zur Neuordnung der Postbeamtenversorgungskasse – PVKNeuG) transferred the functions of BPS-PT relating to civil-servant pensions (organized within the Civil Service Pension Fund) to the Federal Posts and Telecommunications Agency (Federal Agency) (Bundesanstalt für Post und Telekommunikation, Bonn. BAnst PT) effective January 1, 2013. The level of Deutsche Telekom AG's payment obligations to the Civil Service Pension Fund is defined under § 16 of the German Act on the Legal Provisions for the Former Deutsche Bundespost Staff (Postpersonalrechtsgesetz). Deutsche Telekom AG has been legally obligated since 2000 to make an annual contribution to the special pension fund amounting to 33 % of the pensionable gross emoluments of active civil servants and the notional pensionable gross emoluments of civil servants on leave of absence. Deutsche Telekom is not required to fulfill any other obligations in respect of pensions for civil servants. The payment obligations are therefore to be considered defined contribution plans.

In the past, Deutsche Telekom AG and its domestic subsidiaries agreed on **phased retirement arrangements** with varying terms and conditions, predominantly based on what is known as the block model. Two types of obligations, both measured at their present value in accordance with actuarial principles, arise and are accounted for separately. The first type of obligation relates to the cumulative outstanding settlement amount, which is recorded on a pro rata basis during the active or working phase. The cumulative outstanding settlement amount is based on the difference between the employee's remuneration before entering phased retirement (including the employer's social security contributions) and the remuneration for the part-time service (including the employer's social security contributions, but excluding top-up payments). The second type of obligation relates to the employer's obligation to make top-up payments plus an additional contribution to the statutory pension scheme. Top-up payments are often hybrid in nature, i.e., although the agreement is often considered a form of compensation for terminating the employment relationship at an earlier date, payments to be made at a later date are subject to the performance of work in the future. Despite having the characteristics of severance payments, the top-up payments must be recognized ratably over the vesting period due to their dependency on the performance of work in the future. If the block model is used, the vesting period for top-up payments starts when the employee is granted the entitlement to participate in the phased retirement program and ends upon entry into the passive phase (leave from work).

Obligations arising from the granting of termination benefits are recognized when Deutsche Telekom does not have a realistic possibility of withdrawal from the granting of the corresponding benefits. **Severance payments for employees and obligations arising in connection with early retirement arrangements** in Germany are mainly granted in the form of offers to the employees to leave the Company voluntarily. As a rule, such obligations are not recognized before the employees have accepted an offer from the Company, unless the Company is prevented by legal or other restrictions from withdrawing its offer at an earlier date. Obligations arising from the sole decision by the Company to shed jobs are recognized when the Company has announced a detailed formal plan to terminate employment relationships. If termination benefits are granted in connection with restructuring measures within the meaning of IAS 37, a liability under IAS 19 is recognized at the same time as a restructuring provision. Where termination benefits fall due more than twelve months after the reporting date, the expected amount to be paid is discounted to the reporting date. If the timing or the amount of the payment is still uncertain at the reporting date, the obligations are reported under other provisions.

Other provisions

Other provisions are recognized for current legal or constructive obligations to third parties that are uncertain with regard to their timing or their amount. Provisions are recognized for these obligations provided they relate to past transactions or events, will more likely than not require an outflow of resources to settle, and this outflow can be reliably measured. Provisions are carried at their expected settlement amount, taking into account all identifiable risks and uncertainties. The settlement amount is calculated on the basis of a best estimate; suitable estimation methods and sources of information are used depending on the characteristics of the obligation. In the case of a number of similar obligations, the group of obligations is treated as one single obligation. The expected value method is used as the estimation method. If there is a range of potential events with the same probability of occurrence, the average value is taken. Individual obligations (e.g., legal and litigation risks) are regularly evaluated based on the most probable outcome, provided an exceptional probability distribution does not mean that other estimates would lead to a more appropriate evaluation. The measurement of provisions is based on past experience, current costing, and price information, as well as estimates and reports from experts. If experience or current costing or price information is used to determine the settlement amount, these values are extrapolated to the expected settlement date. Suitable price trend indicators (e.g., construction price indexes or inflation rates) are used for this purpose. Provisions are discounted when the effect of the time value of money is material. Provisions are discounted using pre-tax market interest rates that reflect the term of the obligation and the risk associated with it (insofar as not already taken into consideration in the calculation of the settlement amount). Reimbursement claims are not netted against provisions; they are recognized separately as soon as their realization is virtually certain.

Provisions for decommissioning, restoration, and similar obligations arising from the acquisition of property, plant and equipment are offset by a corresponding increase in the capitalized cost of the relevant asset. Changes at a later date in estimates of the amount or timing of payments or changes to the interest rate applied in measuring such obligations also result in retrospective increases or decreases in the carrying amount of the relevant item of property, plant and equipment. These in turn change the depreciation of the asset to be recognized in the future, which leads to the changes in estimates being recognized in profit or loss over the remaining useful life. Where the decrease in the amount of a provision exceeds the carrying amount of the related asset, the excess is recognized immediately in profit or loss.

Financial instruments
Financial instruments are recognized as soon as Deutsche Telekom becomes a party to the contractual regulations of the financial instrument. However, in the case of regular way purchase or sale, the settlement date is relevant for the initial recognition and derecognition. This is the day on which the asset is delivered to or by Deutsche Telekom. In general, financial assets and financial liabilities are offset and the net amount presented in the statement of financial position when, and only when, the entity currently has a right to offset the recognized amounts and intends to settle on a net basis. Transferred financial assets are derecognized in full if substantially all the risks and rewards of ownership are transferred or if some of the risks and rewards of ownership are transferred (risk sharing) and the acquirer has both the legal and the practical ability to sell the assets to a third party. If, in cases where risk is shared, the acquirer is unable to sell the assets to a third party, the assets will continue to be recognized to the extent of the maximum risk retained. Financial liabilities are derecognized when the obligation specified in the contract expires or if there is a substantial modification of the terms of the contract.

Financial assets include cash and cash equivalents, trade receivables, originated loans and other receivables, investments in equity instruments, and derivative financial assets. They are measured at fair value upon initial recognition. For all financial assets not subsequently measured at fair value through profit or loss, the transaction costs directly attributable to the acquisition are taken into account plus, in the case of debt instruments held, a loss account for expected credit losses. The fair values recognized in the statement of financial position are generally based on market prices of the financial assets. If these are not available, the fair value is determined using standard valuation models on the basis of current market parameters. For the classification and measurement of debt instruments held, the respective business model for managing the debt instruments and whether the instruments have the characteristics of a standard loan, i.e., whether the cash flows are solely payments of principal and interest, is relevant. Assuming the assets have these characteristics and if the business model is to hold to collect the asset's contractual cash flows, they are measured at amortized cost. If the objective of the business model is to hold to collect and sell the contractual cash flows, they are measured at fair value through other comprehensive income with recycling to profit or loss. In all other cases, financial assets are measured at fair value through profit or loss. There may be different business models for separate portfolios of the same types of debt instruments, for example if factoring transactions exist for certain trade receivables.

Cash and cash equivalents include cash accounts and short-term cash deposits at banks. They have maturities of up to three months at initial recognition.

Trade receivables are measured at their transaction price at initial recognition. Trade receivables with a significant financing component are initially measured at fair value.

Investments in **equity instruments** represent strategic investments. Deutsche Telekom has exercised the option of generally measuring these through other comprehensive income without recycling to profit or loss. The acquisition and disposal of strategic investments is based on business policy considerations.

Dividends received are recognized immediately in profit or loss unless they constitute a repayment of capital.

Derivative financial assets that are not part of an effective hedging relationship are measured at fair value through profit or loss.

In the **consolidated statement of cash flows**, Deutsche Telekom reports cash flows from interest and dividends received as cash inflows or outflows in net cash from operating activities.

Financial liabilities are measured at fair value on initial recognition. For all financial liabilities not subsequently measured at fair value through profit or loss, the transaction costs directly attributable to the acquisition are also a component of the carrying amount.

If the contractual payment term for **liabilities to suppliers** is longer than the normal credit period in the relevant procurement market at this point in time, this liability is reported under other interest-bearing liabilities in financial liabilities instead of under trade payables. A financing agreement of this nature is shown as a non-cash transaction in the consolidated statement of cash flows and the relevant repayment of the financial liability is reported under net cash from/used in financing activities. This applies regardless of whether the supplier sells its receivable or not.

For further information on the effects on the consolidated statement of cash flows, please refer to Note 37 "Notes to the consolidated statement of cash flows."

Derivative financial liabilities that are not part of an effective hedging relationship are measured at fair value through profit or loss.

Deutsche Telekom has not yet made use of the option to designate financial instruments upon initial recognition as **at fair value through profit or loss**.

At initial recognition, debt instruments that are not measured at fair value through profit or loss are measured including a loss allowance account for expected **credit losses**. For trade receivables with and without a significant financing component, contract assets, and lease assets, the loss allowance is calculated at an amount equal to the lifetime expected credit losses. For all other instruments, the loss allowance is determined at an amount equal to the lifetime expected credit losses if the credit risk on that financial instrument has increased significantly since initial recognition. Otherwise, the loss allowance is calculated at an amount equal to twelve-month expected credit losses. In this case, losses incurred later than twelve months after the reporting date would therefore not be considered.

When determining the amount of loss allowances for financial assets, Deutsche Telekom applies impairment models that are based on the historical probability of default and supplemented by the relevant future-oriented parameters. For debt instruments traded in an active market, publicly available market data is used to determine the loss allowance for expected credit losses.

The loss allowance takes adequate account of the future expected credit risk; write-offs lead to the derecognition of the respective receivables. Financial assets are grouped together on the basis of similar credit risk characteristics, tested collectively for impairment, and written off, if necessary. Loss allowances for trade receivables are managed by the portfolio managers of the individual business entities which have their own policies, procedures, and controls for managing the customer default risk and take account of the local circumstances in the respective market. They consider internal credit ratings and empirical data on the customers' solvency in addition to customer-specific risks, and make use of any available external ratings and estimates by collection agencies. The expected amount of a loss allowance is generally determined using a provision matrix and will increase over time taking into account how long the balances have been past due. The loss allowance rates are updated at regular intervals and adjusted to reflect current conditions and economic forecasts. For receivables and contract assets paid in installments a weighted loss rate is calculated, which reflects the period in which the amounts to be paid by the customer become due. A receivable is deemed past due if the customer has not made the payment by the contractually agreed due date. In some cases, impairments are recognized using allowance accounts. The decision of whether to account for credit risks using an allowance account or by directly reducing the receivable will depend on the reliability of the risk assessment and is also the responsibility of the respective business entity.

Receivables are derecognized if the efforts to collect them are not successful and the receivable balance is deemed to be uncollectible.

Deutsche Telekom uses **derivatives** to hedge the interest rate and currency risks resulting from its operating, financing, and investing activities. The Company does not hold or issue derivatives for speculative trading purposes. Derivatives are carried at their fair value upon initial recognition and also for subsequent measurement. The fair value of traded derivatives is equal to their market price, which can be positive or negative. If there is no market price available, the fair value is determined using standard financial valuation models.

The fair value of derivatives is the price that Deutsche Telekom would receive or have to pay if the financial instrument were transferred at the reporting date. This is calculated on the basis of the counterparties' relevant exchange rates and interest rates at the reporting date. Calculations are made using average rates. In the case of interest-bearing derivatives, a distinction is made between the clean price and the dirty price (full fair value). In contrast to the clean price, the dirty price also includes the interest accrued. The fair values carried correspond to the dirty price.

Embedded derivatives are separated from financial liabilities and other non-financial contracts that are not measured at fair value through profit or loss if the economic characteristics and risks of the embedded derivative are not closely related to the economic characteristics and risks of the host contract. These derivatives must then be recognized separately and measured at fair value through profit or loss. Derivatives embedded in financial assets do not need to be separated, however. In such cases, the entire instrument is rather to be measured at fair value provided the cash flows from the instrument are not solely payments of principal and interest.

Recording the changes in the fair values – either in profit or loss or directly in equity – depends on whether or not the derivative is part of an effective hedging relationship as set out in IFRS 9. If hedge accounting is not applied, the changes in the fair values of the derivatives must be recognized immediately in profit or loss. If, on the other hand, effective hedge accounting exists, the hedge will be recognized as such.

Deutsche Telekom applies hedge accounting to hedged items in the statement of financial position and future cash flows, thus reducing income statement volatility. A distinction is made between fair value hedges, cash flow hedges, and hedges of a net investment in a foreign operation depending on the nature of the hedged item. Hedging relationships are exclusively accounted for in accordance with the requirements of IFRS 9. Deutsche Telekom has exercised the option of designating cross-currency basis spreads as hedging costs rather than as part of the hedging relationship and presenting them separately in equity. To hedge the currency risk of an unrecognized firm commitment, Deutsche Telekom makes use of the option to recognize it as a cash flow hedge rather than a fair value hedge. In the case of fair value hedges, the cumulative adjustments to the carrying amount of the hedged item are amortized when the hedging relationship has been discontinued.

IFRS 9 sets out strict requirements on the use of hedge accounting. Deutsche Telekom complies with these requirements by documenting, at the inception of a hedge, both the relationship between the financial instrument used as the hedging instrument and the hedged item, as well as the risk management objective and the risk strategy of the hedge. This involves concretely assigning the hedging instruments to the corresponding assets or liabilities or (firmly committed/highly probable) future transactions and also assessing the effectiveness of the hedging instruments designated. The effectiveness of existing hedging relationships is monitored on an ongoing basis. If the criteria for applying hedge accounting are no longer met, the hedging relationship will be de-designated immediately.

Deutsche Telekom does not use hedge accounting in accordance with IFRS 9 to hedge the foreign-currency exposure of recognized monetary assets and liabilities, because the gains and losses on the hedged item from currency translation that are recognized in profit or loss in accordance with IAS 21 are shown in the income statement together with the gains and losses on the derivatives used as hedging instruments.

Contingencies (contingent liabilities and assets)
Contingencies (contingent liabilities and assets) are potential liabilities or assets arising from past events whose existence will be confirmed by the occurrence or non-occurrence of one or more uncertain future events not entirely within the control of Deutsche Telekom. Contingent liabilities are also present obligations that arise from past events for which an outflow of resources embodying economic benefits is not probable or for which the amount of the obligation cannot be measured with sufficient reliability. Contingent liabilities are only recognized at their fair value if they were assumed in the course of a business combination. Contingent liabilities not assumed in the course of a business combination are not recognized. Contingent assets are not recognized. However, when the realization of income is virtually certain, then the related asset is no longer a contingent asset, but it is recognized as an asset. Information on contingent liabilities is disclosed in the notes to the consolidated financial statements, unless the possibility of an outflow of resources embodying economic benefits is remote. The same applies to contingent assets where an inflow of economic benefits is probable.

Leases
A lease is a contract in which the lessor conveys the right to use an asset for a period of time to the lessee in exchange for consideration, typically a payment or series of payments. The scope of IFRS 16 applies to standard lease, rental, and tenancy agreements as well as agreements in which the lessee is granted other rights to use assets, such as certain easements. A lease only exists if the contract conveys the right to control the use of an identified asset to the lessee. The lessee has control when it has the right to obtain substantially all of the economic benefits from use of the identified asset and the right to direct the use of the identified asset.

Lessee. At the commencement date of the lease, a lessee recognizes a right-of-use asset and a lease liability in the statement of financial position for all leases. The right-of-use asset is measured applying the cost model and the lease liability is measured at the present value of the future lease payments. This measurement concept also applies to leases for which the underlying asset is of low value and to short-term leases for which the lease term is no longer than twelve months. Non-lease components are not separated from lease components, i.e., all non-lease payments due under the contract are also recognized in the statement of financial position. This practical expedient does not include contracts relating to data centers, which due to their special requirements in terms of equipment and premises form their own separate class of underlying asset. For this class of assets, the non-lease payments are recognized as an expense. IAS 38 is applied for leases of intangible assets rather than IFRS 16.

The lease liability is recognized at the present value of the future lease payments to be made over the reasonably certain lease term. Lease payments are all of the fixed and in-substance fixed payments, less any future lease incentives payable by the lessor. Variable lease payments that depend on an index or a rate, amounts expected to be payable under residual value guarantees, and payment for the exercise of reasonably certain purchase and termination options are also measured and recognized as part of the lease liability. The series of payments is discounted at the interest rate implicit in the lease or, if that rate cannot be readily determined, at the lessee's incremental borrowing rate. The incremental borrowing rate is determined by deriving benchmark interest rates for a period of up to 30 years from maturity-related risk-free interest rates. On this basis, an adjustment is carried out to account for credit-risk premiums, country risks, and interest rate differentials between a bond financing arrangement and the financing of individual lease transactions. All other variable payments are recognized as an expense. The lease liability is subsequently measured using the effective interest method.

The cost of the right-of-use asset comprises: the amount of the initial measurement of the lease liability; any lease payments made at or before the commencement date, less any lease incentives received from the lessor; any initial direct costs incurred for obtaining the lease; the costs for preparing the leased asset for its intended use; and an estimate of any future dismantling and restoration costs. The right-of-use asset is subsequently depreciated on a straight-line basis over the lease term and, if applicable, reduced by any impairment losses. If ownership of the leased asset is transferred to the lessee at the end of the lease term, or if it is reasonably certain that a purchase or put option will be exercised, the right-of-use asset is depreciated from the commencement date to the end of the useful life of the underlying asset.

The lease term is the period during which it is reasonably certain that an underlying asset will be used by the lessee. The lease term includes the non-cancelable period of a lease together with periods covered by options to extend the lease, if their exercise is reasonably certain, and periods covered by termination options, if it is reasonably certain that the termination option will not be exercised. This estimate is reassessed either upon the occurrence of an event or a significant change in circumstances that is within the control of the lessee and affects a change in lease term. The lease term will be revised if an extension option not previously included in the entity's determination of the lease term is exercised or a termination option not previously included in the entity's determination of the lease term is not exercised. The revision of the lease term leads to a change in the future series of lease payments and therefore to a remeasurement of the lease liability using a revised current discount rate. The amount of the resulting difference is recognized outside profit or loss as an adjustment to the right-of-use asset or is offset against it. Derecognition amounts that exceed the carrying amount of the right-of-use asset are recognized as an income in profit or loss.

A lease modification that substantially increases the scope of the original lease is accounted for as a separate lease if both the lessee is granted an additional right to use one or more underlying assets and the consideration for the lease increases by an amount commensurate with the stand-alone price for the increase in scope that the lessee would otherwise have to pay for use if it had leased these assets from a third party under a separate lease.

For lease modifications that increase the scope of a lease but are not accounted for as a separate lease, the required remeasurement of the lease liability is accounted for outside profit or loss as an adjustment to the carrying amount of the right-of-use asset and the lease liability for the existing lease. If a lease modification decreases the scope of the lease, the lessee also remeasures both the right-of-use asset and the lease liability and recognizes any gain or loss in profit or loss. The modified amounts are measured at the modification date with a revised discount rate.

Lessor. If a lease does not transfer substantially all risks and rewards incidental to ownership of an underlying asset to the lessee **(operating lease),** the leased asset is recognized in the statement of financial position by the lessor. Measurement of the leased asset is then based on the accounting policies applicable to the underlying asset. The lease payments, including contractually defined future changes in the lease payments, are recognized in profit or loss by the lessor. Contractually defined future changes in the lease payments during the term of the lease are recognized as lease revenue on a straight-line basis over the lease term, which is assessed at the commencement date of the contract. Where extension options exist, the exercise of those extension options that are reasonably certain is initially taken into account at the time the lease is concluded. If, contrary to the original expectation, these options are exercised or not exercised during the lease term, the previously assessed term will be revised and taken into account in the recognition of future lease revenue from operating lease transactions.

If substantially all risks and rewards incidental to ownership of the underlying leased asset are transferred to the lessee **(finance lease)**, the lessor recognizes at the commencement date, in place of the leased asset, a finance lease receivable at an amount equal to the net investment in the lease. The net investment is defined as the discounted aggregate of future lease payments and any unguaranteed residual value accruing to the lessor (gross investment). The lease payments made by the lessees are split into an interest component and a principal component using the effective interest method. In subsequent measurement, the lease receivable is reduced by the principal lease payments received. The interest component of the payments received is recognized as finance income over the lease term in the consolidated income statement.

Under business models in which Deutsche Telekom is classified as a manufacturer or dealer lessor within the meaning of IFRS 16, revenue from finance leases is recognized at the date at which the asset is made available for use to the lessee at the fair value of the underlying leased asset or, if lower, the present value of the payments including any guaranteed residual value and presented as lease revenue. The selling profit or loss from the finance lease is realized in the amount of the difference between the revenue and the carrying amount of the underlying asset less the present value of the unguaranteed residual value. The finance income (interest income) is subsequently also presented as lease revenue.

For sale and leaseback transactions, if there is a transfer of control within the meaning of IFRS 15, Deutsche Telekom as the seller-lessee measures the right-of-use asset arising from the leaseback at the proportion of the previous carrying amount of the asset that relates to the right of use retained by the seller-lessee. Any gain or loss that relates to the rights transferred to the buyer-lessor is recognized in profit or loss. If there is no transfer of control, the seller-lessee recognizes the transaction as a financing transaction. While the transaction is legally subject to a lease contract, it is not accounted for as a lease and the underlying asset is not derecognized.

Share-based payment programs

Equity-settled share-based payment transactions are measured at fair value on the grant date. The fair value of the obligation is recognized as personnel costs over the vesting period and offset against capital reserves. For equity-settled share-based payment transactions, the fair value is determined using internationally accepted valuation techniques, such as the Black-Scholes model or the Monte Carlo model. For cash-settled share-based payment transactions, the goods and services acquired and the liability incurred are recognized at the fair value of the liability. The fair value of the liability has to be newly determined at each reporting date and at the settlement date, and the changes in the fair value have to be recognized in profit and loss, until the liability is settled.

Net revenue, contract assets and liabilities/contract costs

Revenues include all revenues from the ordinary business activities of Deutsche Telekom. Ordinary activities do not only refer to the core business but also to other recurring sales of goods or rendering of services. However, gains from sales of items of property, plant and equipment or intangible assets are not classified as revenue but as other operating income. All ancillary income in connection with the delivery of goods and rendering of services in the course of an entity's ordinary activities is also presented as revenue. Examples include dunning fees, contractual penalties, and default interest. Income from interest added back from long-term customer receivables and contract assets is also considered ancillary income in the course of an entity's ordinary activities where the underlying receivables or contract assets have resulted in the recognition of revenue. Revenues are recorded net of value-added tax and other taxes collected from customers that are remitted to governmental authorities. They are recognized in accordance with the provision of goods or services, provided that collectability of the consideration is probable. For service contracts with a continuous service provision, the contractually agreed total consideration is recognized as revenue on a straight-line basis over the minimum contract term, regardless of the payment pattern.

A **contract asset** must be recognized when Deutsche Telekom recognized revenue for fulfillment of a contractual performance obligation before the customer paid consideration or before – irrespective of when payment is due – the requirements for billing and thus the recognition of a receivable exist.

A **contract liability** must be recognized when the customer paid consideration or a receivable from the customer is due before Deutsche Telekom fulfilled a contractual performance obligation and thus recognized revenue. In a customer contract, contract liabilities must be set off against contract assets.

Multiple-element arrangements involving the delivery or provision of multiple products or services must be separated into distinct performance obligations, each with its own separate revenue contribution that is recognized as revenue on fulfillment of the obligation to the customer. At Deutsche Telekom, this especially concerns the sale or lease of a mobile handset or other telecommunications equipment combined with the conclusion of a mobile or fixed-network telecommunications contract. The total transaction price of the bundled contract is allocated among the individual performance obligations based on their relative – possibly estimated – standalone selling prices, i.e., based on a ratio of the standalone selling price of each separate element to the aggregated standalone selling prices of the contractual performance obligations. As a result, the revenue to be recognized for products (often delivered in advance) such as mobile handsets that are sold at a subsidized price in combination with a long-term service contract is higher than the amount billed or collected. This leads to the recognition of what is known as a contract asset – a receivable arising from the customer contract that has not yet legally come into existence – in the statement of financial position. The contract asset is reversed and reduced over the remaining minimum contract period, reducing revenue from the other performance obligations (in this case: mobile service revenues) compared with the amounts billed. In contrast to the amounts billed, this results in higher revenue from the sale of goods and merchandise and lower revenue from the provision of services.

Customer activation fees and other advance one-time payments by the customer that do not constitute consideration for a separate performance obligation are deferred as contract liabilities and recognized as revenue over the minimum contract term or, in exceptional cases (e.g., in the case of contracts that can be terminated at any time) over the expected contract period. The same applies to fees for installation and set-up activities that do not have an independent value for the customer.

As distinct from promotional offers, **options to purchase additional goods or services free of charge or at a discount** are separate performance obligations (material rights) for which part of the revenue is deferred as a contract liability until the option is exercised or expires, providing the discount on future purchases is an implicit component of the consideration for the current contract and is also significant. The measure of significance is whether the decision by the (average) customer to enter into the current contract is likely to have been significantly influenced by their right to the future discount. Offers for volume discounts for the purchase of additional core products of an entity (e.g., a discount offered on an additional fixed-network contract for mobile customers) are considered by Deutsche Telekom as promotional offers for which customers do not (implicitly) pay as part of the current contract.

Long-term customer receivables (e.g., arising from sales of handsets in installments), contract assets (e.g., arising from the subsidized sale of a handset in connection with the conclusion of a long-term customer contract), or contract liabilities (e.g., arising from a prepayment by the customer) are recognized at present value if the **financing component** is significant in relation to the total contract value (i.e., including those performance obligations that do not contain a financing component). The discount rate also reflects the customer credit risk. Deutsche Telekom makes use of the option not to recognize a significant financing component if the period between when a good or service is transferred to the customer and when the customer pays for that good or service will be one year or less.

Payments to customers including credits or subsequent discounts are recognized as a reduction in revenue unless the payment constitutes consideration for a distinct good or service from the customer, for which the fair value can be reasonably estimated.

Gross vs. net recognition of revenues. In cases where a company is in an intermediary position between another supplier/vendor (e.g., manufacturer, wholesaler) and a customer, it must be assessed whether the company itself supplies the relevant product or provides the service requested by the customer as the principal or whether the company merely acts as the agent for the supplier. The determining factor is control over the specified good or service prior to transfer to the customer. The outcome determines whether the company must recognize revenue on a gross basis (as a principal) or net of the costs incurred to the supplier (as an agent), i.e., only in the amount of the remaining margin. For Deutsche Telekom, the question arises particularly in the case of (branded) digital products (e.g., streaming services, software licenses, cloud-based software as a service) provided by and purchased from third parties and sold to customers as part of Deutsche Telekom's product portfolio. As a rule, Deutsche Telekom considers itself to be the principal in the aforementioned cases provided the customer does not enter into any contractual relationship with the third-party supplier and Deutsche Telekom bears primary responsibility for product acceptance and customer support, and is in the position to set the sale price.

Contract costs comprise the incremental costs of obtaining a contract (mainly sales commission paid to employees and third-party retailers in the direct and indirect sales channel) and the costs to fulfill a contract. These must be capitalized if it can be assumed that the costs will be compensated by future revenue from the contract. Incremental costs of obtaining a contract are additional costs that would not have been incurred had the contract not been concluded. Costs to fulfill a contract are costs relating directly to a contract that are incurred after contract inception and serve the purpose of fulfilling the contract but are incurred prior to fulfillment and cannot be capitalized under any other standard. Deutsche Telekom makes use of the option to immediately recognize contract costs whose amortization period would not be more than one year as an expense.

The capitalized contract costs are generally recognized on a straight-line basis over the expected contract period. The expenses are disclosed in Deutsche Telekom's income statement, not under depreciation and amortization but – depending on the sales channel – as goods and services purchased or personnel costs.

In the **indirect sales channel**, third-party retailers often arrange service contracts on behalf of and for the account of Deutsche Telekom (as the agent) in connection with the sale of subsidized handsets in their own name and for their own account (as the principal). In such cases, the retailers receive commission in an amount that explicitly or implicitly compensates them for the handset subsidy granted. As in the case of multiple-element arrangements in the direct sales channel, the customer ultimately covers the handset subsidy by paying a price above the standalone selling price for the service contract. Deutsche Telekom considers this an implicit promise to the customer that on conclusion of this service contract they will be able to purchase a handset at a discounted price. The only difference between this promise and the purchase of a service in the direct sales channel is that it is not Deutsche Telekom that is granting the discount as part of a multiple-element arrangement but a third-party retailer that is compensated for it by Deutsche Telekom through the commission it receives for arranging the service contract. As, from an economic substance perspective, these payments constitute indirect payments by Deutsche Telekom to customers, the portion of the commission payments attributable to the (implicit) cost reimbursements to the retailer is not capitalized as contract costs but as a contract asset and is therefore recognized as a reduction of the service revenues over the contract term rather than as an expense. This ensures that the amount of the service revenues generated with retail customers for identical rate plans does not depend on the type of sales channel.

Depending on the business model, **revenue recognition** at Deutsche Telekom is as follows:

The **mobile and fixed-network business** of the Germany, United States, and Europe operating segments includes mobile services, narrow- and broadband access to the fixed network and the internet, television via internet, connection and roaming fees billed to other fixed-network and mobile operators (wholesale business), and sales or lease of mobile handsets, other telecommunications equipment, and accessories, as well as in the United States operating segment reinsurance for terminal equipment insurance policies and extended warranties offered to mobile customers. Revenue generated from the use of voice and data communications as well as television via internet is recognized upon rendering of the agreed service. The services rendered relate to use by customers (e.g., call minutes), availability over time (e.g., monthly flat rates), or other agreed rate plans. Revenue and expenses associated with the sale of telecommunications equipment and accessories are recognized when the products are delivered, provided there are no unfulfilled company obligations that affect the customer's final acceptance of the arrangement. Revenue from the lease of mobile handsets and telecommunications equipment that is not considered a sale in economic terms is recognized monthly as the entitlement to the fees accrued. Advertising revenues are recognized in the period in which the advertisements are exhibited.

Trade-in rights for used handsets which are granted to customers upon contract conclusion under the condition of a new purchase transaction (including renewal of an existing service contract) do not constitute repurchase arrangements; however, if the repurchase prices exceed the fair value of the handsets these rights must be recognized as separate performance obligations for which part of the contractual revenue is deferred until they are exercised or expire.

Particularly in the mobile communications business, the timing of payments for mobile handsets purchased in connection with the conclusion of a service contract differs from the timing of the delivery and hence from revenue recognition. Where a significant financing component exists, revenue is measured at the present value. Whereas the sale of subsidized handsets in connection with the conclusion of (long-term) service contracts in the consumer business is still common in the Germany operating segment and also to some extent in the Europe operating segment, handsets are not sold at a discount at all, or only to a limited extent, in the United States and to some extent in the Europe operating segments; payment-by-installment models or lease models are offered to customers instead. In both the subsidy model and the payment-by-installment model, an asset must thus be recognized at the date of revenue recognition and is generally settled over a 24-month service contract term through payments made by the customer. The only difference is that with the subsidy model it is a contract asset that is repaid through the portion of the monthly bill that exceeds the allocated monthly service revenues. By contrast, the payment-by-installment model involves an existing legal customer receivable that is settled based on an installment plan – separately from the monthly billing for telecommunications services.

The **Systems Solutions** operating segment provides, among other things, IT services and network services for corporate customers including IT outsourcing services and the sale of hardware including desktop services. Revenue from service contracts is recognized as the service is performed, i.e., normally on a pro rata basis over the contract term. Revenue from service contracts billed on the basis of time and material used is recognized at the contractual hourly rates as labor hours are delivered and direct expenses are incurred.

Revenue from hardware sales or sales-type leases is recognized when the product is shipped to the customer, provided there are no unfulfilled company obligations that affect the customer's final acceptance of the arrangement. Any costs of these obligations are recognized when the corresponding revenue is recognized.

Revenue from construction contracts and construction-type service contracts (or elements of service contracts), for which a defined output is promised (e.g., IT developments), is recognized using the percentage-of-completion method. The measure of progress or stage of completion of a contract is generally determined as the percentage of cost incurred up until the reporting date relative to the total estimated cost at the reporting date (cost-to-cost method). In particular for complex outsourcing contracts with corporate customers, a reliable estimate of the total cost and therefore of the stage of completion is not possible in many cases, so revenue is only recognized in the amount of the contract costs expensed. This means that a proportionate profit is not realized until the contract has been completed (zero-profit method).

Revenue from non-sales-type rentals and leases is recognized on a straight-line basis over the lease term.

Income taxes
Income taxes include current income taxes as well as deferred taxes. Current and deferred tax assets and liabilities must be recognized where they are probable. They are measured in accordance with the tax laws applicable or already announced as of the reporting date, provided said announcement has the effect of actual enactment. Where uncertain tax assets or uncertain tax liabilities are recognized because they are probable, these must be measured at their most probable amount. In exceptional cases the expected value is considered. Where current and deferred taxes are recognized, they must be reported as income or expense except to the extent that the tax arises from a transaction which is recognized outside the consolidated income statement, either in other comprehensive income or directly in equity, or in connection with a business combination. Current tax assets and current tax liabilities and deferred tax assets and deferred tax liabilities are offset in the statement of financial position if Deutsche Telekom has a legally enforceable right to set off current tax assets against current tax liabilities, has an intention to settle net, and the deferred tax assets and the deferred tax liabilities relate to income taxes levied by the same taxation authority.

Current tax assets and current tax liabilities must be recognized in the amount that Deutsche Telekom expects to settle with or recover from the tax authorities. They include liabilities/receivables for the current period as well as for prior periods.

Deferred taxes are recognized for temporary differences between the carrying amounts in the consolidated statement of financial position and the tax base, as well as for tax loss carryforwards and tax credits. As an exception to this principle, a deferred tax liability is not recognized for temporary differences if the deferred tax liability arises from the initial recognition of an asset or a liability in a transaction which is not a business combination and, at the time of the transaction, affects neither IFRS accounting profit (before taxes) nor taxable profit/tax loss. Nor is a deferred tax liability recognized for temporary differences arising from the initial recognition of goodwill. A deferred tax liability is generally recognized for temporary differences associated with investments in subsidiaries, joint arrangements, and associates, unless Deutsche Telekom is able to control the timing of the reversal of the temporary difference and it is probable that the temporary differences will not reverse in the foreseeable future.

Judgments and estimates
The presentation of the results of operations or financial position in the consolidated financial statements is dependent upon and sensitive to the accounting policies, assumptions, and estimates. The actual amounts may differ from those estimates. The following critical accounting estimates and related assumptions and uncertainties inherent in accounting policies applied are essential to understand the underlying financial reporting risks and the effects that these accounting estimates, assumptions, and uncertainties may have on the consolidated financial statements.

Measurement of **property, plant and equipment, and intangible assets** involves the use of estimates for determining the fair value at the acquisition date, provided they were acquired in a business combination. Furthermore, the expected useful lives of these assets must be estimated. The determination of the fair values of assets and liabilities, as well as of the useful lives of the assets is based on management's judgment. The measurement of intangible assets acquired in barter transactions is based on management's judgment as to whether a barter transaction has commercial substance. For this, an analysis is performed to determine to what extent the future cash flows (risk, timing, and amount) are expected to change as a consequence of the transaction. Information from external experts is obtained for this analysis and for the determination of the fair values of assets.

The determination of **impairments of property, plant and equipment, intangible assets, and right-of-use assets** involves the use of estimates that include, but are not limited to, the cause, timing, and amount of the impairment. Impairment is based on a large number of factors, such as changes in current competitive conditions, expectations of growth in the telecommunications industry, increased cost of capital, changes in the future availability of financing, technological obsolescence, discontinuance of services, current replacement costs, prices paid in comparable transactions, and other changes in circumstances that may indicate an impairment. Management is required to make significant judgments concerning the identification and validation of impairment indicators, as well as the estimation of future cash flows and the determination of fair values for assets (or groups of assets), applicable discount rates, useful lives, and residual values of the relevant assets. Specifically, the estimation of cash flows underlying the fair values from the mobile business considers the continued investment in network infrastructure required to generate future revenue growth through the offering of new data products and services, for which only limited historical information on customer demand is available. If the demand for these products and services did not materialize as expected, this would result in less revenue, less cash flow, and potential impairment. In addition, when determining fair values, further planning uncertainties that reflect the risks of macroeconomic development could adversely affect future results of operations. Inflation, energy prices, and expectations of inflation and energy price rises as well as their impact on revenue (when passed on to customers) and costs are included in impairment tests via the planning approved by management. Risk management also identifies new risks and additionally takes into account any such risks that would have a significant impact and change an impairment test.

The determination of the **recoverable amount of a cash-generating unit** involves the use of estimates by management. Methods used to calculate the recoverable amount include discounted cash flow-based methods and methods that use market prices as a basis. The discounted cash flow valuations refer to projections that are based on financial plans that have been approved by management and are also used for internal purposes. The chosen planning horizon reflects the assumptions for short- to medium-term market developments and is selected to achieve a steady state in the business outlook that is necessary for calculating the perpetual annuity. This steady state will only be reached based on the planning horizon selected, in particular due to the sometimes long investment cycles in the telecommunications industry and the investments planned and expected in the long run to acquire and extend spectrum licenses. Cash flows beyond the internal mid-term planning are extrapolated using appropriate growth rates defined separately for each cash-generating unit. These growth rates are based on real growth and inflation expected in the long term for the countries in which the respective unit operates. To achieve the sustainable growth rates set for the period of the perpetual annuity, additional sustainable investments derived specifically for each cash-generating unit are taken into account. The key assumptions on which management has based its calculation of the recoverable amount include the following assumptions that were primarily derived from internal sources and are based on past experience and extended by current internal expectations, and that are underscored by external market data and estimates: development of revenue, customer acquisition and retention costs, churn rates, capital expenditure, market share, and growth rates. Discount rates are determined on the basis of external figures derived from the market, taking account of the risks associated with the cash-generating unit (market and country risks). Any future changes in the aforementioned assumptions could have a significant impact on the fair values of the cash-generating units. Changes in the assumptions may have a negative impact, as a result of future macroeconomic trends, continued intense competition, further possible legislation changes (e.g., as part of national austerity programs), and regulatory intervention.

Management recognizes **allowances for (doubtful) accounts** to account for expected losses resulting from payment default of customers. When evaluating the adequacy of an allowance for (doubtful) accounts, management bases its estimates on the aging of accounts receivable balances and historical write-off experience, customer creditworthiness, and changes in customer payment terms. If the financial condition of customers were to deteriorate, actual write-offs might be higher than expected.

In each tax jurisdiction in which Deutsche Telekom operates, management must make judgments for the calculation of **current and deferred taxes**. This is relevant, for example, when it comes to a decision on recognizing deferred tax assets because it must be probable that a taxable profit will be available against which the deductible temporary differences, loss carryforwards, and tax credits can be utilized. In addition to the estimate of future earnings, various factors are used to assess the probability of the future utilization of deferred tax assets, including past results of operations, the reliability of planning, and tax planning strategies. The period used for the assessment of the recoverability depends on the circumstances at the respective Group company and typically is in a range of five to ten years.

Pension obligations for benefits to non-civil servants are generally satisfied by defined benefit plans. Pension benefit costs for non-civil servants are determined in accordance with actuarial valuations, which rely on assumptions regarding the discount rate, the expected salary increase rate, the expected pension trend, and life expectancy. In the event that changes in the assumptions regarding these parameters are required, the future amounts of the pension benefit costs may be affected materially.

Deutsche Telekom is obligated, under the German Federal Posts and Telecommunications Agency Reorganization Act (Gesetz zur Reorganisation der Bundesanstalt für Post und Telekommunikation Deutsche Bundespost), to pay for its share of any operating cost shortfalls between the income of the **Civil Service Health Insurance Fund** (Postbeamtenkrankenkasse) and benefits paid. The Civil Service Health Insurance Fund provides services mainly in cases of illness, birth, or death for its members, who are civil servants employed by or retired from Deutsche Telekom AG, Deutsche Post AG, and Deutsche Postbank AG, and their relatives. When Postreform II came into effect, participation in the Civil Service Health Insurance Fund was closed to new members. The insurance premiums collected by the Civil Service Health Insurance Fund must not exceed the insurance premiums imposed by alternative private health insurance enterprises for comparable insurance benefits, and, therefore, do not reflect the changing age distribution of the participants in the fund. Deutsche Telekom recognizes provisions in the amount of the actuarially determined present value of Deutsche Telekom's share in the fund's future deficit, using a discount rate and making assumptions about life expectancies and projections for contributions and future increases in general health care costs in Germany. Since the calculation of these provisions involves long-term projections over periods of more than 50 years, the present value of the liability may be highly sensitive even to small variations in the underlying assumptions.

Deutsche Telekom exercises considerable judgment in measuring and recognizing **provisions** and **contingent liabilities** related to pending litigation or other outstanding claims subject to negotiated settlement, mediation, arbitration, or government regulation. Judgment is necessary in assessing the likelihood that a pending claim will succeed, or a liability will arise, and to quantify the possible range of the final settlement. Provisions are recognized for losses from executory contracts, provided a loss is considered probable and can be reasonably estimated. Because of the inherent uncertainties in this evaluation process, actual losses may be different from the originally estimated provision. In addition, significant estimates are involved in the determination of provisions related to taxes and litigation risks. These estimates are subject to change as new information becomes available, primarily with the support of internal specialists or with the support of outside consultants, such as actuaries or legal counsel. Revisions to the estimates of these losses from executory contracts may significantly affect future results of operations.

Revenue recognition, contract assets and liabilities/contract costs

The determination of the **transaction price** may also be subject to estimates and assumptions, especially in the case of variable consideration, e.g., performance bonuses paid out at the end of a contract. Since their inclusion can lead over time to the recognition of revenue that must be partially reversed in subsequent periods if the conditions for payment are not met, variable payment components can only be included in the transaction price if it is highly probable that there will be an entitlement to payment. Where the variable consideration leads to a reduction in the payment entitlement or a repayment obligation on the part of Deutsche Telekom (e.g., in the case of volume discounts), the fixed contractual payment must be set lower accordingly. In the case of variable discounts, the non-inclusion of the variable consideration means that these as-yet unknown discounts are generally taken into account with a reducing effect on the transaction price.

The standalone selling prices of individual products or services that are part of **multiple-element arrangements** are complex to determine, because some of the elements are price-sensitive and, thus, volatile in a competitive marketplace. In many cases, standalone selling prices can also not be observed for the company's own products. Due to the fact that comparability is generally not completely assured, the use of market prices for similar products is subject to an element of uncertainty, as is an estimate using a cost-plus-margin approach. Changes in estimates of standalone selling prices can significantly influence the allocation of the transaction price for the entire multiple-element arrangement among the individual performance obligations and therefore affect both the financial position, i.e., the carrying amount of contract assets and contract liabilities, and the current and future results of operations.

One-time payments by the customer for contracts that can be terminated at any time are recognized over an expected contract period, the length of which depends on the period over which, from a commercial perspective, the customer is expected to renew or not terminate the contract on a monthly basis.

Contract costs are deferred and generally recognized as expense over the expected contract period. The estimate of the expected average contract period is based on historical customer turnover. However, this is subject to fluctuations and has only limited informative value with regard to future customer behavior, particularly if new products are rolled out. If management's estimates are revised, material differences may result in the amount and timing of expenses for subsequent periods.

The significance of **material rights** is an estimate that is based on both quantitative and qualitative factors. This is ultimately a matter of judgment, even though it is supported by quantitative facts. Depending on the decision as to whether or not the customer has a material right to be deferred, there may be material differences in the amount and timing of revenues for the current and subsequent periods.

Gross vs. net recognition of revenues. The assessment of whether Deutsche Telekom presents revenue gross as the principal or net after deduction of costs as the agent, i.e., only in the amount of the remaining margin, requires an analysis of both the legal form and the substance of contracts. After all of the relevant facts and circumstances of the individual case have been weighed up, in many cases the decision also involves a degree of discretion, even if a uniform Group method of assessment is applied. Depending on the conclusion reached, there may be material differences in the amounts of revenues and expenses for the current and subsequent periods. This has no bearing on profit/loss from operations, however.

Extension and termination options for the lessee

Extension and termination options are included in many lease arrangements across the Deutsche Telekom Group. Local teams are responsible for managing their individual leases. As a result, lease contracts include a wide range of different terms and conditions.

The main population of lease contracts in the Deutsche Telekom Group comprises arrangements for cell site infrastructure, land/ground underneath the infrastructure, switch sites, office buildings, and retail stores, which are mainly located in the United States and Germany. The length of the lease term in these contracts is the main factor in measuring the lease liabilities.

The majority of cell site leases in the United States have an initial non-cancelable term of 5 to 15 years, with several renewal options that can extend the lease term from five to 35 years. Cell site leases in Germany, on the other hand, typically have an initial non-cancelable period of 1 to 15 years, during which the lease cannot be terminated. After the initial period of time, the lease extends automatically if neither party terminates the lease or if Deutsche Telekom, as lessee, exercises an extension option, which is typically for five years. Leases can be extended on up to three occasions. The majority of extension options are exercisable by the relevant business units of the Deutsche Telekom Group.

In **determining the lease term**, management applies judgment and considers all facts and circumstances that create an economic incentive for Deutsche Telekom to exercise an extension option, or not to exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if Deutsche Telekom is reasonably certain to exercise an option to extend the lease, or not to exercise an option to terminate the lease.

In determining the duration of leases of cell site space, land/ground, switch sites, office buildings, and retail stores, which are the most relevant lease contracts in the Deutsche Telekom Group, the following are the most relevant factors that are considered:

- Rapidly advancing and ever-changing technology in the telecommunications industry requires flexible lease contracts, i.e., management tries to minimize longer periods during which the contracts cannot be canceled.
- When determining whether an extension of a lease contract is reasonably certain, in addition to any significant penalties for terminating (or not extending) the lease, business plans and the business model are considered, e.g., cost/benefit analysis, consolidation plans for the mobile network and office facilities, new mobile network standards, significance of the property for the underlying operations, replacement or usage of additional technology, as well as the availability and cost of alternative locations.
- Often leasehold improvements can be used in alternative locations. In many cases, the costs of moving or replacing the asset or initial construction costs are not the main factor considered when determining whether to extend or not to extend the lease.
- Significant investments made in a location, e.g., construction of towers and masts on the leased land, are economic penalties typically considered when determining the lease term.

After having considered all of the factors above, for cell site contracts in the United States as of the lease commencement date, Deutsche Telekom concluded that it is generally not reasonably certain that an option to extend the lease term beyond the initial non-cancelable lease term will be exercised. For cell site contracts – including the land/ground underneath the infrastructure – in Germany, a lease term of 10 to 15 years is considered reasonably certain. Extension options after that period are typically not considered reasonably certain at commencement of the lease. Payments associated with these optional periods are not included in the measurement of the lease liabilities.

Most extension options for office and shop leases are not included in the lease liability because Deutsche Telekom could replace the leased assets without significant cost or business disruption.

Exposure to future additional cash outflows will only arise when an extension option (not determined to be reasonably certain) is exercised or when a termination option (determined to be reasonably certain) is not exercised.

After the commencement date, the likelihood of exercising an option is only reassessed if a significant event or a significant change in circumstances occurs that affects this judgment, and this is within the control of the lessee. Deutsche Telekom reassesses the lease term when an option is exercised (or not exercised) or Deutsche Telekom becomes obligated to exercise or not to exercise it.

For further information on undiscounted future lease payments, please refer to Note 13 “Financial liabilities and lease liabilities.”

Consolidation methods

Subsidiaries

Subsidiaries are companies that are directly or indirectly controlled by Deutsche Telekom. Control only exists if an investor has power over the investee, is exposed to variable returns or has rights to variable returns, and is able to use its power to affect the amount of variable returns. The existence and effect of substantive potential voting rights that are currently exercisable or convertible, including potential voting rights held by other Group companies, are considered when assessing whether an entity is controlled.

All subsidiaries are included in the consolidated financial statements, unless the costs of preparing the reporting required for inclusion by means of full consolidation would outweigh the benefits of such reporting, which is primarily the case for subsidiaries which an operating segment or the Group considers to be insignificant based on the following criterion: the sum of all unconsolidated subsidiaries must not account for more than 1 % of the Group’s total assets, revenue, profit/loss for the year, contingent assets/liabilities, and other financial obligations. If the 1 % limit is exceeded, Deutsche Telekom determines which companies are to be included in the consolidated financial statements, taking the long-term development of the investment and consolidation effects into account. Aside from the quantitative criteria, qualitative criteria will also be used to assess the materiality of an entity for the consolidated group. Excluding a subsidiary must not significantly change the segment result or the Group’s profit/loss for the year, nor may other significant trends be ignored. Subsidiaries that are not included in the consolidated financial statements due to their subordinate significance are recognized under other assets.

Income and expenses of a subsidiary are included in the consolidated financial statements from the acquisition date and remain included in the consolidated financial statements until the date on which the parent company ceases to control the subsidiary. If necessary, the subsidiaries’ accounting principles will be aligned with the uniform accounting principles applied by the Deutsche Telekom Group. Intercompany income and expenses, receivables and liabilities, and profits or losses are eliminated.

Upon loss of control, a gain or loss from the disposal of the subsidiary is recognized in the consolidated income statement in the amount of the difference between (i) the proceeds from the disposal of the subsidiary, the fair value of the remaining shares, the carrying amount of the non-controlling interests, and the cumulative amounts of other comprehensive income attributable to the subsidiary, and (ii) the carrying amount of the subsidiary’s net assets to be disposed of.

Joint operations, joint ventures, and associates

Joint arrangements, in which two or more parties have joint control over an activity, must be classified as either joint operations or joint ventures.

A **joint operation** is characterized by the fact that the parties that have joint control of the arrangement (joint operators) have rights to the assets, and obligations for the liabilities, relating to the arrangement. A joint operator accounts for the assets, liabilities, revenues and expenses relating to its interest in the joint operation as well as its share of the joint assets, liabilities, revenues, and expenses.

In a **joint venture**, on the other hand, the parties that have joint control of the arrangement (partners) have rights to the net assets of the entity. **Associates** are companies on which Deutsche Telekom has a significant influence, and that are neither subsidiaries nor joint ventures. As with joint ventures, associates are accounted for using the **equity method**.

Investments in joint ventures and associates that are included in the consolidated financial statements using the equity method are recognized at cost at the time of acquisition. The carrying amount of the investment may include goodwill as the positive difference between the cost of the investment and Deutsche Telekom’s proportionate share in the fair values of the entity’s identifiable net assets. If necessary, the accounting principles of joint ventures and associates will be aligned with the uniform accounting principles applied by the Deutsche Telekom Group. The carrying amount of the investment accounted for using the equity method is tested for impairment provided there are indications of impairment. If the carrying amount of the investment exceeds its recoverable amount, an impairment loss must be recognized in the amount of the difference. The recoverable amount is measured at the higher of fair value less costs of disposal and value in use.

Upon loss of significant influence, a gain or loss from the disposal of the joint venture/associate is recognized in the amount of the difference between (i) the proceeds from the disposal of the shares, the fair value of the remaining shares, and the cumulative amounts of other comprehensive income attributable to the joint venture or associate, and (ii) the carrying amount of the investment to be disposed of.

The materiality assessment for jointly controlled entities and associates is generally performed using the same methods as for subsidiaries, but is limited to the criteria of profit/loss for the year, contingent assets and liabilities, and other financial obligations.

Business combinations

A business combination exists when Deutsche Telekom obtains control of another entity. All business combinations must be accounted for using the acquisition method. The cost of an acquired subsidiary is measured at the fair value of the consideration transferred, i.e., the sum of the assets transferred, liabilities assumed, and equity instruments issued. Transaction costs are generally recognized as expense. The acquisition cost is allocated to the acquired assets, liabilities, and contingent liabilities. The identifiable assets acquired and the liabilities and contingent liabilities assumed are recognized in full at their fair values at the acquisition date, regardless of the level of the investment held by Deutsche Telekom.

Goodwill arising in a business combination is measured as the excess of the aggregate of the cost of acquisition, the amount of any non-controlling interest in the acquiree, and, in a business combination achieved in stages, the fair value of the equity interest held by Deutsche Telekom in the acquiree prior to the acquisition date over the fair value of the net assets acquired. Any difference arising on the revaluation of equity interests previously held by Deutsche Telekom is recognized in profit or loss.

For all business combinations there is an option in relation to the measurement of the non-controlling interests. These can be recognized either directly at their fair value (i.e., the non-controlling interest in the enterprise value of the acquiree) or at the non-controlling interest in the fair value of the net assets acquired. As a result, in the first case, the non-controlling interests also have a share in the goodwill arising from the business combination, while in the second case the non-controlling interest is limited to the remeasured assets and liabilities and the goodwill is therefore recognized only as the amount attributable to Deutsche Telekom.

Transactions relating to the further acquisition or sale of equity interests with other shareholders that do not affect Deutsche Telekom’s controlling interest do not lead to any change in goodwill. The difference between the fair value of the consideration transferred or received (i.e., the purchase price of the interests) and the carrying amount of the equity attributable to the non-controlling interests must be offset directly against consolidated shareholders’ equity in capital reserves or increases the capital reserves.

Changes in the composition of the Group and other transactions

In the 2022 financial year, Deutsche Telekom conducted the following transactions, which had an impact on the composition of the Group. Other changes to the composition of the Group not shown here were of no material significance for Deutsche Telekom's consolidated financial statements.

Sale of T-Mobile Netherlands

On September 6, 2021, Deutsche Telekom and Tele2 signed an agreement to sell T-Mobile Netherlands to WP/AP Telecom Holdings IV, a private equity consortium advised by Apax Partners and Warburg Pincus. The transaction was consummated on March 31, 2022 after obtaining the necessary approvals from the authorities and satisfying the other closing conditions. The sale price is based on an enterprise value of EUR 5.1 billion. The cash proceeds – based on Deutsche Telekom's overall shareholding of 75 % – amounted to EUR 3.6 billion. The gain on deconsolidation resulting from the sale amounted to EUR 0.9 billion. Until the transaction was closed, the entity had been assigned to the Group Development operating segment. As of December 31, 2021, the assets and liabilities of T-Mobile Netherlands were classified as held for sale on account of the specific intention to sell them.

Joint venture GlasfaserPlus with IFM

On November 5, 2021, Deutsche Telekom had announced that IFM Global Infrastructure Fund would acquire a stake of 50 % in GlasfaserPlus GmbH, a fiber-optic build-out entity. The sale of a 50 % stake in GlasfaserPlus was consummated on February 28, 2022, after the EU Commission had approved the transaction on January 25, 2022 and the other closing conditions had been satisfied. The sale price was EUR 0.9 billion. The first tranche of the purchase price of EUR 0.4 billion was paid upon completion of the transaction. The remainder will arise in stages upon achieving certain build-out milestones. In this connection, a contingent consideration receivable of EUR 0.5 billion was recognized under other financial assets upon completion of the transaction. The resulting joint venture is to build out an additional 4 million gigabit-capable FTTH lines in rural and development areas by 2028. Following the loss of control as a result of the transaction, the GlasfaserPlus entities were deconsolidated as of February 28, 2022. Until the transaction was closed, the entity had been assigned to the Germany operating segment. The resulting gain on deconsolidation of EUR 1.7 billion is included in other operating income. The portion of the gain on deconsolidation attributable to the shares in the GlasfaserPlus entities remaining at Deutsche Telekom at the date when control was lost, calculated at their fair value, amounted to EUR 0.9 billion. The stakes in the joint venture have been included in the consolidated financial statements in the Germany operating segment using the equity method since February 28, 2022. The carrying amount of the investment amounted to EUR 0.5 billion as of December 31, 2022.

For summarized financial information on the joint venture, as well as a reconciliation to the carrying amount of the investment, please refer to Note 10 "Investments accounted for using the equity method."

For further information on the carrying amount of the contingent consideration, please refer to Note 42 "Financial instruments and risk management."

New limited partners admitted to infrastructure fund DIV II

In August and September 2022, Digital Transformation Capital Partners (DTCP Infra) admitted new investors to the investment company Digital Infrastructure Vehicle II SCSp SICAV-RAIF (DIV II). As a result, Deutsche Telekom's share in DIV II decreased from 66.67 % to 41.25 %. At the same time, an advisory committee has been set up, which will comprise up to ten of the most important investors. By admitting new limited partners, Deutsche Telekom lost control over DIV II. As a result, the entity was deconsolidated on August 2, 2022. Until the transaction was closed, the entity had been assigned to the Group Development operating segment. The resulting gain on deconsolidation of EUR 0.1 billion is included in other operating income. Since then, the stake retained by the Group of 41.25 % has been included in the consolidated financial statements as an associate using the equity method in the Group Development operating segment. The carrying amount of the investment amounted to EUR 0.3 billion as of December 31, 2022. There are plans to admit further investors. In the future, Deutsche Telekom's stake is expected to fall to around 25 %, in line with the target structure.

For summarized financial information on the associate, as well as a reconciliation to the carrying amount of the investment, please refer to Note 10 "Investments accounted for using the equity method."

The composition of the Deutsche Telekom Group changed as follows in the 2022 financial year:

	Domestic	International	Total
Consolidated subsidiaries			
January 1, 2022	62	314	376
Additions	4	31	35
Disposals (including mergers)	3	55	58
December 31, 2022	**63**	**290**	**353**
Associates accounted for using the equity method			
January 1, 2022	4	12	16
Additions	1	3	4
Disposals	0	6	6
December 31, 2022	**5**	**9**	**14**
Joint ventures accounted for using the equity method			
January 1, 2022	5	5	10
Additions	8	0	8
Disposals	1	2	3
December 31, 2022	**12**	**3**	**15**
Total			
January 1, 2022	71	331	402
Additions	15	34	49
Disposals (including mergers)	6	63	69
December 31, 2022	**80**	**302**	**382**

The following transactions will change the composition of the Deutsche Telekom Group in the future.

Agreement with DigitalBridge and Brookfield on the Group's cell tower business in Germany and Austria and recognition of the GD tower companies as a discontinued operation

On July 13, 2022, Deutsche Telekom agreed to sell a 51.0 % stake in the companies comprising its tower assets in Germany and Austria, assigned to the Group Development operating segment (GD tower companies), to DigitalBridge and Brookfield. The preliminary sale price is based on an enterprise value of EUR 17.5 billion. The estimated cash proceeds from the transaction are expected to be EUR 10.7 billion. Since closing of the transaction on February 1, 2023, Deutsche Telekom has lost control over the GD tower companies. All necessary regulatory approvals had been duly granted and all other closing conditions met. Since the transaction was consummated so close to the date of preparing the consolidated financial statements, it is not yet possible to provide any information on the financial impact of the transaction. In future, the stake retained by Deutsche Telekom of 49.0 % will be included in the consolidated financial statements using the equity method. Once the transaction was consummated, Deutsche Telekom leased back most of the sold passive network infrastructure in Germany and Austria under a sale and leaseback arrangement.

As a result of the agreement dated July 13, 2022, the GD tower companies are recognized in the consolidated financial statements as of December 31, 2022 as a discontinued operation. The consolidated income statement has been adjusted accordingly with retrospective effect. Thus the contributions by the GD tower companies are no longer included in the individual items of the consolidated income statement. Instead, profit or loss after taxes is recognized in the item "Profit/loss after taxes from discontinued operation." Assets and the directly associated liabilities are shown as "held for sale" in the consolidated statement of financial position. In the consolidated statement of cash flows, the contributions by the GD tower companies are each stated in a separate "of which" line item.

Agreement with Cogent to sell the U.S. wireline business

On September 6, 2022, T-Mobile US reached an agreement with Cogent Infrastructure (Cogent) on the sale of T-Mobile US' fiber-optic-based wireline business. Under the agreement, Cogent will take over all shares in the entity that holds all of the assets and liabilities related to the former Sprint's fiber-optic-based wireline network. The sale price is USD 1 and is subject to customary adjustments laid down in the purchase agreement. In addition, upon completion of the transaction, T-Mobile US undertakes to enter into a separate agreement on IP transit services, according to which T-Mobile US will pay a total of USD 700 million to Cogent. The transaction is subject to approval by the authorities as well as other closing conditions. The assets and liabilities of the wireline business have been reported in the consolidated statement of financial position as "held for sale" since September 30, 2022. The transaction is expected to be completed by mid-2023. In connection with the agreement concluded, T-Mobile US recognized an impairment loss of EUR 0.4 billion in total on the underlying assets in the second half of 2022. Furthermore, liabilities totaling EUR 0.7 billion were recognized in connection with payment obligations entered into as part of the transaction. These liabilities included, under financial liabilities, the present value of the future payments for IP transit services. Since a specific use for these services has not been identified, the corresponding expense has already been recognized in full in the reporting period under other operating expenses.

Other transactions that had no effect on the composition of the Group

OTE share buy-back

The extraordinary shareholders' meeting of OTE S.A. on January 18, 2022 resolved to retire 8,638,512 treasury shares, which had been acquired as part of a share buy-back program, with a corresponding capital reduction of around EUR 24 million. The shares were retired from the Athens Stock Exchange on February 22, 2022. As a result, Deutsche Telekom's share in OTE increased from 48.29 % to 49.22 %.

The shareholders' meeting of OTE S.A. on May 25, 2022 resolved to retire another 5,617,282 treasury shares, which had been acquired as part of a share buy-back program, with a corresponding capital reduction of around EUR 16 million. The shares were retired from the Athens Stock Exchange on July 12, 2022. As a result, Deutsche Telekom's share in OTE increased from 49.22 % to 49.85 % as of July 12, 2022.

The extraordinary shareholders' meeting of OTE S.A. on November 1, 2022 resolved to retire another 8,818,730 treasury shares, which had been acquired as part of a share buy-back program, with a corresponding capital reduction of around EUR 25 million. The shares were retired from the Athens Stock Exchange on November 29, 2022. As a result, Deutsche Telekom's share in OTE increased from 49.85 % to 50.86 % as of November 29, 2022.

Increase of the stake in T-Mobile US

In keeping with the declared strategic goal of securing control of T-Mobile US in the long term, on April 12, 2022, Deutsche Telekom acquired a total of around 21.2 million additional T-Mobile US shares from SoftBank for a purchase price of USD 2.4 billion (EUR 2.2 billion). To this end, Deutsche Telekom exercised a further portion of the stock options it had received from SoftBank in June 2020 to purchase shares in T-Mobile US. This gives a weighted average price of around USD 113 per T-Mobile US share. Upon its completion, the transaction increased Deutsche Telekom's stake in T-Mobile US by 1.7 percentage points. The fair value of the consideration transferred (within the meaning of the IFRSs) amounts to EUR 2.7 billion and comprises a cash payment of EUR 2.2 billion and the fair value of the exercised stock options at the time of exercising of EUR 0.5 billion. The acquisition was made using cash proceeds from the sale of T-Mobile Netherlands.

For the presentation of the effects in connection with the partial exercise and subsequent measurement of the stock options, please refer to Notes 19 "Shareholders' equity," 11 "Other financial assets," and 42 "Financial instruments and risk management."

Share buy-back program at T-Mobile US

On September 8, 2022, T-Mobile US announced that its Board of Directors has authorized a share buy-back program for up to USD 14.0 billion (USD 3.0 billion of which by the end of 2022) of the company's common stock through September 30, 2023. Repurchases are expected to be made from available cash on hand and proceeds of one or more debt issuances or other borrowings, based on the company's evaluation of market conditions and other factors. The specific timing, price, and size of repurchases will depend on prevailing stock prices, general economic and market conditions, and other considerations. By December 31, 2022, T-Mobile US had bought back approximately 21.4 million shares with a total volume of USD 3.0 billion (EUR 3.0 billion) under this program.

For further information on the stake in T-Mobile US and the percentage of voting rights, please refer to the section "Principal subsidiaries."

Principal subsidiaries

The Group's principal subsidiaries are presented in the following table:

Name and registered office		Deutsche Telekom share %	Net revenue[a, b] millions of €	Profit (loss) from operations[a] millions of €	Shareholders' equity[a] millions of €	Average number of employees	Assigned to segment
Telekom Deutschland GmbH, Bonn, Germany	**Dec. 31, 2022/2022**	100.00	22,208	5,181	9,614	3,750	Germany
	Dec. 31, 2021/2021	100.00	21,772	4,852	7,762	3,816	
T-Systems International GmbH, Frankfurt/Main, Germany	**Dec. 31, 2022/2022**	100.00	2,134	(335)	884	6,180	Systems Solutions
	Dec. 31, 2021/2021	100.00	2,214	(365)	716	6,661	
T-Mobile US, Inc., Bellevue, Washington, United States[c, d]	**Dec. 31, 2022/2022**	48.14	75,436	7,470	71,681	69,056	United States
	Dec. 31, 2021/2021	46.75	67,791	7,217	67,259	70,793	
Hellenic Telecommunications Organization S.A. (OTE), Athens, Greece[c]	**Dec. 31, 2022/2022**	50.86	3,455	579	2,525	11,048	Europe
	Dec. 31, 2021/2021	48.29	3,743	865	2,652	13,736	
Hrvatski Telekom d.d., Zagreb, Croatia[c, d]	**Dec. 31, 2022/2022**	53.02	984	140	2,147	4,320	Europe
	Dec.31, 2021/2021	52.17	982	106	2,179	4,668	
Magyar Telekom Telecommunications Public Limited Company, Budapest, Hungary[c, d]	**Dec. 31, 2022/2022**	61.39	1,907	277	2,173	6,741	Europe
	Dec.31, 2021/2021	59.21	1,933	259	2,243	6,933	
Slovak Telekom a.s., Bratislava, Slovakia[c, d]	**Dec. 31, 2022/2022**	100.00	806	200	1,564	3,046	Europe
	Dec. 31, 2021/2021	100.00	787	161	1,548	3,211	
T-Mobile Austria Holding GmbH, Vienna, Austria[c, d]	**Dec. 31, 2022/2022**	100.00	1,391	139	2,786	1,789	Europe
	Dec. 31, 2021/2021	100.00	1,346	93	3,168	1,876	
T-Mobile Czech Republic a.s., Prague, Czech Republic[c, d]	**Dec. 31, 2022/2022**	100.00	1,226	377	2,155	3,141	Europe
	Dec. 31, 2021/2021	100.00	1,121	317	2,040	3,229	
T-Mobile Polska S.A., Warsaw, Poland[c, d]	**Dec. 31, 2022/2022**	100.00	1,413	86	1,872	3,682	Europe
	Dec. 31, 2021/2021	100.00	1,421	91	1,940	3,895	

[a] IFRS figures of the respective subgroup.

[b] The prior-year comparatives were adjusted retrospectively to take account of changes to the principal/agent policy regarding the recognition of gross and net revenues as of the third quarter of 2022.

[c] Consolidated subgroup.

[d] Indirect shareholding of Deutsche Telekom AG.

In accordance with § 313 HGB, the full statement of investment holdings, which forms part of the notes to the consolidated financial statements, is published in the company register together with the consolidated financial statements. It is available upon request from Deutsche Telekom AG, Bonn, Investor Relations, and on Deutsche Telekom's website (www.telekom.com) under Investor Relations. Furthermore, the statement of investment holdings includes a full list of all subsidiaries that exercise simplification options in accordance with § 264 (3) HGB or disclosure simplification options in accordance with § 264b HGB.

The following table shows the non-controlling interests for principal subsidiaries:

Name and registered office		Percentage of shareholding for non-controlling interests %	Percentage of voting rights for non-controlling interests %	Cumulative non-controlling interests[a] millions of €	Dividends paid out to non-controlling interests millions of €
T-Mobile US, Inc., Bellevue, Washington, United States[b, c]	**Dec. 31, 2022/2022**	51.86	47.33	36,332	0
	Dec. 31, 2021/2021	53.25	47.98	35,640	0
Hellenic Telecommunications Organization S.A. (OTE), Athens, Greece[b]	**Dec. 31, 2022/2022**	49.14	42.86	1,022	124
	Dec. 31, 2021/2021	51.71	45.12	1,129	219
Hrvatski Telekom d.d., Zagreb, Croatia[b, c]	**Dec. 31, 2022/2022**	46.98	46.98	806	40
	Dec. 31, 2021/2021	47.83	47.83	831	41
Magyar Telekom Telecommunications Public Limited Company, Budapest, Hungary[b, c]	**Dec. 31, 2022/2022**	38.61	38.61	564	27
	Dec. 31, 2021/2021	40.79	40.79	605	27

[a] IFRS figures at the level of the consolidated financial statements of Deutsche Telekom.

[b] Consolidated subgroup.

[c] Indirect shareholding of Deutsche Telekom AG.

Deutsche Telekom held 48.14 % of the shares in T-Mobile US as of the reporting date. Taking the treasury shares held by T-Mobile US into account, Deutsche Telekom had a 49.0 % stake in T-Mobile US as of December 31, 2022. Due to a proxy agreement concluded with SoftBank and the fact that persons nominated by Deutsche Telekom hold a majority on the Board of Directors of the company, T-Mobile US is being included in the consolidated financial statements of Deutsche Telekom as a fully consolidated subsidiary. The proportion of T-Mobile US shares for which Deutsche Telekom can exercise voting rights totaled around 52.7 % as of December 31, 2022.

Deutsche Telekom held 50.86 % of the shares in the OTE group at the reporting date. In accordance with shareholder agreements between Deutsche Telekom and the Hellenic Republic, Deutsche Telekom controls around 57.1 % of the voting rights.

Summarized financial information for subsidiaries with significant non-controlling interests:

millions of €

Name and registered office		Current assets[a]	Non-current assets[a]	Current liabilities[a]	Non-current liabilities[a]	Profit (loss)[a]	Total comprehensive income[a]
T-Mobile US, Inc., Bellevue, Washington, United States[b, c]	**Dec. 31, 2022/2022**	20,901	194,680	24,040	119,860	2,206	6,711
	Dec. 31, 2021/2021	21,532	175,248	21,671	107,851	2,508	7,714
Hellenic Telecommunications Organization S.A. (OTE), Athens, Greece[b]	**Dec. 31, 2022/2022**	1,359	4,504	1,878	1,461	385	416
	Dec. 31, 2021/2021	1,434	4,619	1,984	1,417	603	615
Hrvatski Telekom d.d., Zagreb, Croatia[b, c]	**Dec. 31, 2022/2022**	732	1,744	240	90	82	76
	Dec. 31, 2021/2021	709	1,779	208	101	80	89
Magyar Telekom Telecommunications Public Limited Company, Budapest, Hungary[b, c]	**Dec. 31, 2022/2022**	671	3,315	766	1,047	170	20
	Dec. 31, 2021/2021	691	3,482	800	1,129	174	149

[a] IFRS figures of the respective subgroup.
[b] Consolidated subgroup.
[c] Indirect shareholding of Deutsche Telekom AG.

millions of €

Name and registered office		Net cash from operating activities[a]	Net cash (used in) from investing activities[a]	Net cash (used in) from financing activities[a]
T-Mobile US, Inc., Bellevue, Washington, United States[b, c]	**2022**	23,569	(16,165)	(8,978)
	2021	19,663	(19,816)	(3,042)
Hellenic Telecommunications Organization S.A. (OTE), Athens, Greece[b]	**2022**	1,318	(508)	(853)
	2021	1,204	(320)	(842)
Hrvatski Telekom d.d., Zagreb, Croatia[b, c]	**2022**	346	(146)	(194)
	2021	381	(207)	(191)
Magyar Telekom Telecommunications Public Limited Company, Budapest, Hungary[b, c]	**2022**	514	(281)	(244)
	2021	548	(288)	(345)

[a] IFRS figures of the respective subgroup.
[b] Consolidated subgroup.
[c] Indirect shareholding of Deutsche Telekom AG.

Structured entities

Deutsche Telekom processes factoring transactions by means of structured entities.

For further information, please refer to Note 42 "Financial instruments and risk management."

Since 2014, Deutsche Telekom has consolidated four structured leasing SPEs, and since 2018 two more such SPEs, for real estate as well as operating and office equipment at two sites for the operation of data centers in Germany. The two data centers were built under the management of an external leasing company and are operated by T-Systems International GmbH. Apart from the contractual obligations to make lease payments to the leasing SPEs, Deutsche Telekom has no obligation to give them further financial support.

T-Mobile USA Tower LLC and T-Mobile West Tower LLC, which are included in the consolidated financial statements as investments accounted for using the equity method, are also structured entities.

For further information, please refer to Note 10 "Investments accounted for using the equity method."

Joint operations

On the basis of a contractual arrangement concluded by T-Mobile Polska S.A., Deutsche Telekom combined the activities for the planning, building, and operation of the Polish mobile communications network with a partner in 2011 to generate savings. Deutsche Telekom recognizes its share (50 %) of the corresponding assets in line with the economic substance in the consolidated statement of financial position.

Currency translation

Foreign-currency transactions are translated into the functional currency at the exchange rate at the date of transaction. At the reporting date, monetary items are translated at the closing rate, and non-monetary items are translated at the exchange rate at the date of transaction. Exchange rate differences are recognized in profit or loss.

The assets and liabilities of Group entities whose functional currency is not the euro are translated into euros from the local currency using the middle rates at the reporting date. The income statements and corresponding profit or loss of foreign-currency denominated Group entities are translated at monthly average exchange rates for the period. The differences that arise from the use of both rates are recognized directly in equity.

The exchange rates of certain key currencies changed as follows:

€	Annual average rate			Rate at the reporting date	
	2022	2021	2020	**Dec. 31, 2022**	Dec. 31, 2021
100 Czech korunas (CZK)	4.07089	3.89888	3.78060	4.14345	4.02124
100 Croatian kuna (HRK)	13.27140	13.28220	13.26560	13.27230	13.30760
1,000 Hungarian forints (HUF)	2.55675	2.78908	2.84691	2.49707	2.70845
100 Macedonian denars (MKD)	1.62314	1.62324	1.62187	1.62299	1.62339
100 Polish zlotys (PLN)	21.33620	21.90100	22.51210	21.34570	21.75600
1 U.S. dollar (USD)	0.94930	0.84568	0.87553	0.93655	0.88285

Development of the economic environment and the associated impact

The **macroeconomic challenges** currently facing society, politics, and business are multi-faceted and often interdependent, such as the rise in energy prices, the general energy supply shortage, the coronavirus pandemic, the ongoing high rate of inflation, rising interest rate levels, the devaluation of the euro, geopolitical tensions, and the war in Ukraine. This gives rise to substantial uncertainty in terms of global economic development. Deutsche Telekom is aware that, in view of the current developments, it is only possible to extrapolate past experience to the future to a limited extent. Deutsche Telekom is constantly reassessing the challenges and takes them into account in its consolidated financial statements and financial reporting, e.g., when determining the impairment of goodwill, the recognition of deferred taxes, and the measurement of provisions and financial instruments.

Deutsche Telekom's business activities and hence its results of operations and financial position are not significantly impacted yet by the consequences of the **war in Ukraine**. Deutsche Telekom does not operate any mobile or voice networks in Russia or Ukraine. Neither does a stop on gas deliveries from Russia directly impact on the Group's network operations. Deutsche Telekom is discontinuing its developer activities in Russia. Possible future effects on the measurement of individual assets and liabilities are being analyzed on an ongoing basis. Indirect effects on Deutsche Telekom arise primarily from increased energy prices in the Europe operating segment. The Group's main energy costs are secured by long-term hedging transactions, especially in the United States and Germany operating segments. It has also secured the main financing requirements there with long-term fixed interest rates. The medium- and long-term effects on global economic development cannot be assessed with certainty.

The **coronavirus pandemic** continues to have implications for the global economy in the reporting year. Business activities and thus the results of operations and financial position of Deutsche Telekom were impacted by the coronavirus pandemic in various business areas, affecting revenue and earnings, although not to any significant extent. Although the pandemic has only had a limited negative impact on the telecommunications sector so far, if the pandemic were to re-escalate, it could lead to further supply-side shortages. Possible future effects on the measurement of individual assets and liabilities are being analyzed on an ongoing basis. Based on experience so far, the coronavirus pandemic is expected to continue to have only a limited impact on Deutsche Telekom's business going forward.

Impact of climate change

In the 2022 financial year, Deutsche Telekom analyzed potential sustainability risks in the areas of climate change and scarcity of resources. Climate change risks are already visible in the form of increasingly extreme weather conditions. Such storm events can damage the infrastructure and disrupt network operation with direct or indirect effects on operations. The risk is assessed in relation to the continuation of operations as part of risk management and is managed at an operational level in the business units. Deutsche Telekom can take further action to help prevent climate change and to conserve resources by reducing its own CO_2 emissions. For this reason, in 2021 Deutsche Telekom set itself the target of cutting CO_2 emissions across the Group (Scope 1 and 2) to net zero by 2025.

For further information, please refer to the combined management report in the sections "Combined non-financial statement" and "Risk and opportunity management."

Deutsche Telekom did not identify any key risks to its business model in the area of either climate change or scarcity of resources and, as such, also does not currently anticipate any significant impacts from such risks on its business model or on the presentation of its results of operations or financial position.

Notes to the consolidated statement of financial position

1 Cash and cash equivalents

In the reporting period, cash and cash equivalents decreased by EUR 1.9 billion to EUR 5.8 billion.

For further information, please refer to Note 37 "Notes to the consolidated statement of cash flows."

Cash and cash equivalents have an original maturity of less than three months and mainly comprise fixed-term bank deposits. They also include small amounts of cash-in-hand and checks. Deutsche Telekom obtained cash collateral of EUR 156 million (December 31, 2021: EUR 1,616 million) on the basis of collateral contracts as surety for potential credit risks arising from derivative transactions.

As of December 31, 2022, Deutsche Telekom reported cash and cash equivalents of EUR 87 million (December 31, 2021: EUR 36 million) that is not freely available to Deutsche Telekom, mainly relating to asset-backed securities issued by T-Mobile US, as well as cash balances held by the subsidiaries in Russia. These cash balances are not fully available for use by Deutsche Telekom AG or other Group companies.

2 Trade receivables

At EUR 16.8 billion, trade receivables increased by EUR 1.5 billion against the 2021 year-end level. In the United States operating segment, the increase in receivables was mainly due to exchange rate effects, as well as to customer additions for the Equipment Installment Plan . The carrying amount in the Germany operating segment also increased, mainly as a result of the termination of factoring agreements. The carrying amount was reduced by higher allowances of customer receivables, in particular in the United States operating segment. These resulted from higher receivables and potential future macroeconomic effects. Furthermore, wholesale receivables in the United States declined.

Of the total of trade receivables, EUR 14,013 million (December 31, 2021: EUR 12,462 million) is due within one year. As of the reporting date, trade receivables with a carrying amount of EUR 858 million were pledged as collateral in connection with asset-backed securities issued by T-Mobile US.

For information on allowances, credit ratings, and write-offs of receivables as well as on factoring agreements, please refer to Note 42 "Financial instruments and risk management."

3 Contract assets

The carrying amount of contract assets stood at EUR 2.4 billion as of December 31, 2022, up EUR 0.4 billion against the prior-year level. Contract assets relate to receivables that have not yet legally come into existence, which arise from the earlier – as compared to billing – recognition of revenue, in particular from the sale of goods and merchandise under long-term multiple-element arrangements (e.g., mobile contract plus handset). Receivables from long-term construction contracts are also recognized under contract assets. Of the total contract assets, EUR 0.3 billion related to contract assets in connection with long-term construction contracts (December 31, 2021: EUR 0.2 billion).

In connection with the increased marketing of the Equipment Installment Plan in the United States operating segment, contract assets increased by EUR 235 million. Under this plan, discounts are granted on the purchase of a handset on the condition of a minimum service contract term. By contrast, contract assets were reduced by EUR 40 million in the reporting year (2021: EUR 51 million) due to a change in the business model in Poland from subsidized terminal equipment business to a business model that does not provide for handsets to be sold at a discount. In the Germany operating segment, the carrying amounts increased by EUR 0.1 billion.

For information on allowances of contract assets, please refer to Note 42 "Financial instruments and risk management."

4 Inventories

millions of €

	Dec. 31, 2022	Dec. 31, 2021
Raw materials and supplies	130	53
Work in process	34	19
Finished goods and merchandise	2,474	2,783
	2,639	**2,855**

The carrying amount of inventories decreased by EUR 0.2 billion compared to December 31, 2021 to EUR 2.6 billion, due to the sale of terminal equipment in consequence of the impending market launch of new handset models, and warehouse closures at former Sprint sites in the United States operating segment. By contrast, inventories increased in the Germany and Europe operating segments, partly as a preventive measure in connection with the prevailing supply chain uncertainties. Exchange rate effects, in particular from the translation of U.S. dollars into euros, also had an increasing effect.

Write-downs of EUR 39 million (2021: EUR 23 million, 2020: EUR 42 million) on the net realizable value were recognized in profit or loss in 2022. The carrying amount of inventories expensed during the reporting period was EUR 22,722 million (2021: EUR 22,532 million, 2020: EUR 16,693 million).

Finished goods and merchandise primarily comprise retail products (e.g., terminal equipment and accessories) not manufactured by Deutsche Telekom and services rendered but not yet invoiced, primarily to business customers.

5 Non-current assets and disposal groups held for sale and liabilities directly associated with non-current assets and disposal groups held for sale

As of December 31, 2022, current assets recognized in the consolidated statement of financial position included EUR 4.7 billion (December 31, 2021: EUR 4.9 billion) in non-current assets and disposal groups held for sale. Current liabilities in the consolidated statement of financial position included liabilities directly associated with non-current assets and disposal groups held for sale of EUR 3.3 billion as of December 31, 2022 (December 31, 2021: EUR 1.4 billion). The change in carrying amounts resulted from the transactions described below.

millions of €

	Dec. 31, 2022					Dec. 31, 2021				
	GD tower companies	T-Mobile US wireline business	T-Mobile US spectrum	Other	Total	T-Mobile Netherlands B.V.	Glasfaser Plus GmbH	T-Mobile US spectrum	Other	Total
Non-current assets and disposal groups held for sale										
Cash and cash equivalents		26			**26**	8	3			**11**
Trade receivables	14	32			**46**	396				**396**
Inventories	11				**11**	44				**44**
Other current assets	7	9			**16**	64				**64**
Intangible assets	524	30	65		**619**	2,253	120	27	5	**2,405**
Of which: goodwill	523				**523**	876	120		2	**998**
Property, plant and equipment	1,573	192		28	**1,793**	746			18	**764**
Right-of-use assets	2,043	47			**2,090**	612				**612**
Deferred tax assets	71				**71**	414				**414**
Other non-current assets	6	6			**12**	117			29	**146**
Total	**4,249**	**342**	**65**	**28**	**4,684**	**4,654**	**123**	**27**	**52**	**4,856**
Liabilities directly associated with non-current assets and disposal groups held for sale										
Financial liabilities	14				**14**					**0**
Current lease liabilities	184	56			**240**					**0**
Trade and other payables	87	59			**146**	324				**324**
Other current provisions	28				**28**	81				**81**
Other current liabilities	26	4			**30**	247				**247**
Non-current lease liabilities	1,798	234			**2,032**	634				**634**
Provisions and similar obligations	26				**26**					**0**
Other non-current provisions	689	33			**722**	32				**32**
Deferred tax liabilities	61				**61**	39				**39**
Other non-current liabilities	45	3			**48**	8				**8**
Total	**2,958**	**389**	**0**	**0**	**3,347**	**1,365**	**0**	**0**	**0**	**1,365**

As of December 31, 2022, the carrying amounts included the reclassified assets and liabilities of the GD tower companies in the Group Development operating segment, and of the T-Mobile US wireline business in the United States operating segment. Both these entities were classified as held for sale as of December 31, 2022 on account of purchase agreements signed but not yet consummated.

The assets and liabilities of both entities were measured at the lower of the carrying amount and fair value less costs of disposal. The fair values were determined on the basis of the sale agreements concluded with the contracting parties.

For further information on the aforementioned business transactions, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

In 2022, transactions were agreed between T-Mobile US and several competitors for the exchange of mobile spectrum licenses in order to improve mobile network coverage. In the prior year, similar transactions were agreed between T-Mobile US and two competitors for the exchange of mobile spectrum licenses, which were consummated in the reporting year. The measurements use parameters that are not observable on the market (Level 3 inputs).

As of December 31, 2021, the carrying amounts included the reclassified assets and liabilities of T-Mobile Netherlands B.V. in the Group Development operating segment, and of GlasfaserPlus GmbH in the Germany operating segment.

For further information on the disposals consummated in the reporting year, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

No reversals of impairments of the carrying amounts of the non-current assets and disposal groups held for sale were recognized either in the reporting year or in the prior year.

6 Intangible assets

millions of €

	Internally generated intangible assets	Acquired intangible assets		
		Total	Acquired concessions, industrial and similar rights and assets	LTE licenses
Cost				
At December 31, 2020	**9,195**	**116,766**	**1,801**	**6,789**
Currency translation	505	8,072	43	(15)
Changes in the composition of the Group	0	659	(21)	0
Additions	612	10,075	455	286
Disposals	(609)	(2,654)	(773)	(75)
Change from non-current assets and disposal groups held for sale	(664)	(2,849)	(15)	(1,093)
Reclassifications	1,344	1,973	128	(0)
At December 31, 2021	**10,383**	**132,041**	**1,618**	**5,893**
Currency translation	397	6,598	10	(79)
Changes in the composition of the Group	(1)	18	14	0
Additions	702	4,175	412	9
Disposals	(789)	(1,658)	(148)	(210)
Change from non-current assets and disposal groups held for sale	(10)	(95)	(0)	0
Reclassifications	1,458	1,683	(4)	(32)
At December 31, 2022	**12,141**	**142,762**	**1,901**	**5,582**
Accumulated amortization and impairment losses				
At December 31, 2020	**(5,707)**	**(23,908)**	**(1,311)**	**(2,759)**
Currency translation	(345)	(840)	(35)	7
Changes in the composition of the Group	0	7	13	0
Additions (amortization)	(1,599)	(4,869)	(424)	(410)
Additions (impairment)	(63)	(42)	0	0
Disposals	608	2,596	773	75
Change from non-current assets and disposal groups held for sale	607	1,593	1	505
Reclassifications	(53)	34	(55)	2
Reversal of impairment losses	0	0	0	0
At December 31, 2021	**(6,552)**	**(25,429)**	**(1,038)**	**(2,581)**
Currency translation	(278)	(563)	(5)	19
Changes in the composition of the Group	0	(4)	(12)	0
Additions (amortization)	(1,858)	(4,894)	(324)	(352)
Additions (impairment)	(95)	(52)	(0)	(1)
Disposals	789	1,573	148	210
Change from non-current assets and disposal groups held for sale	4	26	0	0
Reclassifications	(56)	(39)	1	4
Reversal of impairment losses	0	1	0	0
At December 31, 2022	**(8,046)**	**(29,382)**	**(1,230)**	**(2,700)**
Net carrying amounts				
At December 31, 2021	3,832	106,611	580	3,313
At December 31, 2022	**4,095**	**113,380**	**671**	**2,882**

Acquired intangible assets					Goodwill	Advance payments and intangible assets under development	
UMTS licenses	GSM licenses	FCC licenses (T-Mobile US)	5G licenses	Other acquired intangible assets			**Total**
1,375	**1,247**	**76,736**	**2,635**	**26,184**	**37,115**	**1,962**	**165,038**
5	1	6,806	0	1,233	1,655	54	10,286
0	0	5	0	675	890	0	1,548
0	0	8,353	0	979	0	3,091	13,778
(178)	(11)	0	0	(1,618)	0	(9)	(3,273)
(641)	(10)	(26)	(233)	(831)	(1,884)	(47)	(5,445)
167	29	(0)	47	1,603	0	(3,287)	30
727	**1,256**	**91,873**	**2,449**	**28,225**	**37,775**	**1,764**	**181,963**
1	(2)	5,736	1	931	1,234	22	8,252
0	0	0	0	5	41	(1)	59
0	0	2,902	3	848	(0)	3,875	8,752
0	(33)	0	(1)	(1,266)	0	(30)	(2,478)
0	0	(61)	0	(33)	(527)	(7)	(639)
0	2	0	117	1,599	(0)	(3,105)	36
728	**1,223**	**100,450**	**2,569**	**30,309**	**38,524**	**2,518**	**195,945**
(1,289)	**(697)**	**(2,282)**	**(55)**	**(15,515)**	**(17,295)**	**(62)**	**(46,972)**
(4)	(1)	(198)	0	(610)	(834)	0	(2,020)
0	0	0	0	(7)	0	0	7
(44)	(54)	0	(97)	(3,839)	0	0	(6,468)
0	(4)	0	0	(38)	0	(51)	(155)
178	11	0	0	1,559	0	(0)	3,204
480	10	0	12	585	886	0	3,086
(0)	(1)	0	0	89	0	21	3
0	0	0	0	0	0	0	0
(679)	**(737)**	**(2,480)**	**(139)**	**(17,774)**	**(17,243)**	**(91)**	**(49,315)**
(0)	1	(151)	(0)	(428)	(633)	(0)	(1,475)
0	0	0	0	8	0	0	(4)
(25)	(54)	0	(129)	(4,011)	0	0	(6,752)
0	(18)	0	0	(33)	0	(33)	(180)
0	31	0	0	1,184	0	1	2,363
0	0	(4)	0	30	0	0	30
0	0	0	(2)	(41)	0	83	(12)
0	1	0	0	0	0	0	1
(704)	**(777)**	**(2,635)**	**(271)**	**(21,066)**	**(17,876)**	**(40)**	**(55,344)**
48	519	89,393	2,310	10,450	20,531	1,673	132,647
24	**446**	**97,815**	**2,299**	**9,243**	**20,647**	**2,478**	**140,600**

The carrying amount of intangible assets increased by EUR 8.0 billion to EUR 140.6 billion, mainly due to additions of EUR 8.8 billion, EUR 2.9 billion of which related to the acquisition of mobile spectrum and resulted almost entirely from the licenses acquired at the FCC Auction 110 in the United States. Another EUR 0.3 billion related to advance payments and intangible assets under development in connection with FCC Auction 108. The licenses acquired have yet to be assigned by the FCC. Exchange rate effects, primarily from the translation of U.S. dollars into euros, also increased the carrying amount by EUR 6.8 billion. Positive effects from changes in the composition of the Group contributed EUR 0.1 billion to the increase in the carrying amount, while amortization and impairment losses of EUR 6.9 billion reduced it. This includes impairment losses of EUR 0.2 billion. The reclassification of assets worth EUR 0.6 billion to non-current assets and disposal groups held for sale also reduced the carrying amount. These relate to the agreements on the sale of the Group's cell tower business in Germany and Austria (GD tower companies) and of the wireline business in the United States. Disposals decreased the carrying amount by EUR 0.1 billion.

For further information on amortization and impairment losses, please refer to Note 27 "Depreciation, amortization and impairment losses."

For further information on the aforementioned business transactions, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

Deutsche Telekom had commitments for the acquisition of intangible assets in the amount of EUR 5.4 billion (December 31, 2021: EUR 2.0 billion) as of the reporting date. The majority of this related to commitments entered into by T-Mobile US.

For further information, please refer to Note 41 "Other financial obligations."

Expenditure on research and development recognized as an expense by Deutsche Telekom amounted to EUR 30.3 million in the reporting year (2021: EUR 32.5 million).

Impairment losses recognized in the 2022 financial year **on intangible assets, property, plant and equipment, and right-of-use assets** totaled EUR 1.2 billion (2021: EUR 0.3 billion). This was the result of the following effects:

Impairment losses on non-current assets in the United States operating segment. In the second quarter of 2022, T-Mobile US decommissioned the former Sprint's 3G CDMA network and began switching off the former Sprint's 4G LTE network, which was completed in the third quarter of 2022. Until now, the operation of these networks has been supported by Sprint's own fiber-optic-based wireline network. The assets of this wireline network, which mainly comprise land and buildings, communication systems and network technology, fiber-optic cable equipment and right-of-use assets, therefore had to be grouped together with the mobile assets for the purposes of the impairment test and were thus part of the United States cash-generating unit. Due to the decommissioning of Sprint's mobile networks, the assets of Sprint's fiber-optic-based wireline network now generate cash inflows independently of the assets of the mobile business. As such, they are no longer assigned to the United States cash-generating unit. This resulted in an ad hoc impairment test of the fiber-optic-based wireline assets as of June 30, 2022. The fair value of the assets was determined using the combination of cost, income, and market-value-based approaches, including assumptions of the market participants. The value was calculated using Level 3 input parameters. A discount rate of 7.5 % was used. The recoverable amount of the assets, calculated as fair value less costs of disposal, was EUR 452 million below the carrying amount and stood at EUR 649 million. EUR 228 million of the impairment loss recognized in this connection related to property, plant and equipment, EUR 201 million to right-of-use assets, and EUR 23 million to intangible assets.

On September 6, 2022, T-Mobile US reached an agreement with Cogent on the sale of the fiber-optic-based wireline business of the former Sprint. The sale price is USD 1 and is subject to customary adjustments laid down in the purchase agreement. As a result of the purchase agreement concluded, the assets of the wireline business were reclassified as of September 30, 2022 to non-current assets and disposal groups held for sale. This required a remeasurement of these assets at the lower of carrying amount and fair value based on the purchase price less costs of disposal, which resulted in an impairment loss of EUR 375 million as of the date of the reclassification. EUR 300 million of the impairment loss related to property, plant and equipment, EUR 71 million to right-of-use assets, and EUR 4 million to intangible assets.

Impairment losses on non-current assets in the Systems Solutions operating segment and in the Group Headquarters & Group Services segment. In the 2022 financial year, impairment losses on intangible assets and property, plant and equipment totaling EUR 144 million were recognized in the Systems Solutions cash-generating unit. These related to follow-up investments in connection with assets previously impaired in the 2020 and 2021 financial years. Furthermore, despite the business outlook remaining positive, the substantial increase in the cost of capital in the reporting year prompted further impairment losses to be recognized on non-current assets at the end of 2022. The recoverable amount – determined as fair value less costs of disposal – was calculated at EUR 478 million, which is EUR 351 million lower than the carrying amount of the Systems Solutions cash-generating unit. The fair values of the individual assets were set as the lower limit for the amount of the impairment loss. An external expert opinion was obtained to determine the fair values of the individual assets. The value was calculated using Level 3 input parameters. A discount rate of 8.42 % was used. EUR 86 million of the impairment loss recognized in this connection in the Systems Solutions operating segment related to intangible assets, and EUR 24 million to property, plant and equipment. Another EUR 33 million related to intangible assets recognized in the Group Headquarters & Group Services segment that are subject to use by the Systems Solutions operating segment and are allocated to the Systems Solutions cash-generating unit for the purposes of impairment testing.

In the 2021 financial year, impairment losses on intangible assets and property, plant and equipment totaling EUR 200 million were recognized. This was a consequence of several factors, including the ad hoc impairment testing carried out in the Systems Solutions cash-generating unit, in the prior year and related to follow-up investments. Despite the marginal improvement in the business outlook, the increase in the cost of capital in the financial year prompted further impairment losses to be recognized on non-current assets in the Systems Solutions cash-generating unit at the end of 2021. The recoverable amount – determined as fair value less costs of disposal – was calculated at EUR 186 million, which is EUR 328 million lower than the carrying amount of the Systems Solutions cash-generating unit. The fair values of the individual assets were set as the lower limit for the amount of the impairment loss. An external expert opinion was obtained to determine the fair values of the individual assets. The value was calculated using Level 3 input parameters. A discount rate of 6.22 % was used. EUR 118 million of the impairment loss recognized in this connection in the Systems Solutions operating segment related to intangible assets, and EUR 61 million to property, plant and equipment. Another EUR 21 million related to intangible assets in the Group Headquarters & Group Services segment that are subject to use by the Systems Solutions operating segment and are allocated to the Systems Solutions cash-generating unit for the purposes of impairment testing.

Impairment losses on non-current assets in the Europe operating segment (Romania). In the 2022 financial year, impairment losses on intangible assets and property, plant and equipment totaling EUR 117 million were recognized. These related to the Romania cash-generating unit, which operates in the structurally challenging and highly competitive Romanian market. In addition, high energy prices and sharp rises in interest rates had a negative impact on the enterprise value. The value in use was calculated at EUR 41 million, which is EUR 116 million lower than the carrying amount of the cash-generating unit. A discount rate of 9.48 % was used. EUR 85 million of the impairment loss related to property, plant and equipment and EUR 32 million to intangible assets.

In the 2022 financial year, the **carrying amount of goodwill in cash-generating units** in the operating segments increased by EUR 0.1 billion to EUR 20.6 billion. This was the result of the following effects:

United States operating segment. The increase in goodwill of EUR 0.7 billion compared with December 31, 2021 primarily relates to exchange rate effects from the translation of U.S. dollars into euros. A further acquisition of a company was immaterial for the United States operating segment.

Europe operating segment. Changes in goodwill in the cash-generating units Poland, Hungary, the Czech Republic, and Croatia resulted from exchange rate effects.

Group Development operating segment. Goodwill declined by EUR 0.5 billion in the Deutsche Funkturm and Magenta Telekom Infra cash-generating units on account of the agreed sale of the GD tower companies. As of December 31, 2022, this item was recognized as "held for sale" in the consolidated statement of financial position.

For further information on the agreed sale of the GD tower companies, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies" and to Note 5 "Non-current assets and disposal groups held for sale and liabilities directly associated with non-current assets and disposal groups held for sale."

Disclosures on annual impairment tests. As of December 31, 2022, Deutsche Telekom carried out its annual impairment tests on the goodwill and intangible assets with an indefinite useful life (in particular, FCC licenses in the United States) assigned to the cash-generating units.

The recoverable amounts to be identified for the impairment tests were largely determined on the basis of the fair values less costs of disposal. With the exception of the United States cash-generating unit (Level 1 measurement), these figures were calculated using the net present value method. The main parameters are shown in the following table. The impairment tests on goodwill as of December 31, 2022 did not result in any need for impairment in the cash-generating units. Likewise no need for impairment had been identified in the cash-generating units at the reporting date of the prior year.

The recoverable amounts at the cash-generating units Croatia, Montenegro, and North Macedonia were determined using the value in use. The market price of an active and liquid market (share price) of T-Mobile US was used to determine the fair value less costs of disposal in the case of the United States cash-generating unit. The measurements of all other cash-generating units, as for the value in use, are founded on projections for a ten-year projection period that are based on financial plans that have been approved by management and are also used for internal purposes. The chosen planning horizon reflects the assumptions for short- to medium-term market developments and is selected to achieve a steady state in the business outlook that is necessary for calculating the perpetual annuity. This steady state can only be established based on this planning horizon, in particular due to the sometimes long investment cycles in the telecommunications industry and the investments planned and expected in the long run to acquire and extend the rights of spectrum use. Cash flows beyond the internal mid-term planning are extrapolated using appropriate growth rates defined separately for each cash-generating unit. These growth rates are based on real growth and inflation expected in the long term for the countries in which the respective unit operates. To achieve the sustainable growth rates set for the period of the perpetual annuity, additional sustainable investments derived specifically for each cash-generating unit are taken into account. The key assumptions on which management has based its determination of the recoverable amount include the following assumptions that were primarily derived from internal sources and are based on past experience and extended to include internal expectations, and that are underscored by external market data and estimates: development of revenue, customer acquisition and retention costs, churn rates, capital expenditure, market share, and growth rates. Discount rates are determined on the basis of external figures derived from the market, taking account of the market and country risks associated with the cash-generating unit. Any significant future changes in the aforementioned assumptions would have an impact on the fair values of the cash-generating units. Changes in the assumptions may have a negative impact, as a result of future macroeconomic trends, continued intense competition, further possible legislation changes (e.g., as part of national austerity programs), and regulatory intervention.

For further information on the determination of the recoverable amounts of the cash-generating units, please refer to the section “Accounting policies” under “Summary of accounting policies.”

The following table provides an overview of the main factors affecting the measurement and the classification of the input parameters (levels) used to determine the recoverable amounts in accordance with IFRS 13.

		Goodwill carrying amount millions of €	Impairment millions of €	Detailed planning period years	Discount rates[a] %	Sustainable growth rate p. a. Ø in %	Level allocation of input parameters[b]
Germany	**2022**	4,845	0	10	4.48	0.0	Level 3
	2021	4,845	0	10	3.19	0.0	Level 3
United States	**2022**	11,345	0	n.a.	n.a.	n.a.	Level 1
	2021	10,654	0	n.a.	n.a.	n.a.	Level 1
Europe							
Poland	**2022**	186	0	10	7.47	1.0	Level 3
	2021	189	0	10	6.17	1.0	Level 3
Hungary	**2022**	827	0	10	9.09	1.0	Level 3
	2021	900	0	10	7.24	1.0	Level 3
Czech Republic	**2022**	836	0	10	6.50	1.0	Level 3
	2021	812	0	10	5.24	1.0	Level 3
Croatia	**2022**	506	0	10	7.16	1.0	Value in use
	2021	508	0	10	5.75	1.0	Value in use
Slovakia	**2022**	423	0	10	5.81	1.0	Level 3
	2021	424	0	10	3.95	1.0	Level 3
Greece	**2022**	422	0	10	6.23	1.0	Level 3
	2021	422	0	10	4.91	1.0	Level 3
Austria	**2022**	613	0	10	5.67	1.0	Level 3
	2021	613	0	10	4.16	1.0	Level 3
Other[c]	**2022**	53	0	10	8.75–8.98	1.0	Value in use
	2021	53	0	10	7.42–7.48	1.0	Value in use
Group Development							
Deutsche Funkturm[d]	**2022**						
	2021	259	0	10	4.15	1.0	Level 3
Magenta Telekom Infra[d]	**2022**						
	2021	264	0	10	4.69	1.0	Level 3
Group Headquarters & Group Services							
Deutsche Telekom IT	**2022**	590	0	10	8.61	1.0	Level 3
	2021	590	0	10	6.94	1.0	Level 3
Deutsche Telekom in total	**2022**	**20,647**	**0**				
	2021	**20,531**	**0**				

[a] Discount rate consistently after taxes. The discount rate before taxes for the calculation of the value in use amounts to 8.54 % (2021: 6.92 %) for Croatia, and 10.08 to 10.17 % (2021: 8.32 to 8.33 %) for "Other."

[b] Level of input parameters in the case of fair value less costs of disposal.

[c] This includes goodwill from the cash-generating units Montenegro and North Macedonia.

[d] Reclassification of goodwill to non-current assets and disposal groups held for sale due to the agreed sale of GD tower companies.

The sensitivity analyses for the need for impairment resulting from a change in the main parameters affecting measurement did not result in any different need for impairment for any cash-generating unit to which goodwill is allocated. Changes of plus or minus 50 basis points in the discount rate and in the sustainable growth rate, and of 5 percentage points in net cash flows, were each analyzed separately.

7 Property, plant and equipment

millions of €	Land and equivalent rights, and buildings including buildings on land owned by third parties	Technical equipment and machinery	Other equipment, operating and office equipment	Advance payments and construction in progress	Total
Cost					
At December 31, 2020	**18,503**	**144,769**	**10,244**	**4,745**	**178,261**
Currency translation	456	3,491	252	191	4,390
Changes in the composition of the Group	36	(17)	(0)	5	25
Additions	187	3,638	487	11,149	15,461
Disposals	(1,100)	(10,111)	(828)	(98)	(12,137)
Change from non-current assets and disposal groups held for sale	(430)	(914)	(110)	(143)	(1,597)
Reclassifications	547	9,503	910	(10,526)	433
At December 31, 2021	**18,197**	**150,360**	**10,956**	**5,322**	**184,835**
Currency translation	371	2,552	187	155	3,265
Changes in the composition of the Group	(0)	(1)	(4)	(4)	(9)
Additions	887	3,042	387	13,899	18,215
Disposals	(460)	(23,332)	(819)	(188)	(24,800)
Change from non-current assets and disposal groups held for sale	(1,435)	(1,709)	(2,905)	(175)	(6,223)
Reclassifications	894	11,412	878	(12,066)	1,118
At December 31, 2022	**18,454**	**142,324**	**8,680**	**6,943**	**176,401**
Accumulated depreciation and impairment losses					
At December 31, 2020	**(11,207)**	**(99,198)**	**(6,864)**	**(17)**	**(117,286)**
Currency translation	(206)	(1,910)	(147)	(0)	(2,263)
Changes in the composition of the Group	(0)	52	1	1	54
Additions (depreciation)	(792)	(12,748)	(1,055)	0	(14,595)
Additions (impairment)	(11)	(53)	(13)	(15)	(92)
Disposals	1,059	8,720	741	4	10,525
Change from non-current assets and disposal groups held for sale	185	566	97	12	860
Reclassifications	68	(225)	(111)	0	(269)
Reversal of impairment losses	1	0	0	0	1
At December 31, 2021	**(10,903)**	**(104,796)**	**(7,351)**	**(15)**	**(123,065)**
Currency translation	(159)	(1,490)	(102)	(0)	(1,751)
Changes in the composition of the Group	0	2	5	0	8
Additions (depreciation)	(804)	(11,153)	(1,067)	(0)	(13,023)
Additions (impairment)	(115)	(496)	(50)	(7)	(668)
Disposals	343	22,714	659	2	23,717
Change from non-current assets and disposal groups held for sale	1,026	1,604	2,046	2	4,677
Reclassifications	4	(558)	(14)	(0)	(568)
Reversal of impairment losses	1	0	0	0	2
At December 31, 2022	**(10,607)**	**(94,172)**	**(5,874)**	**(19)**	**(110,672)**
Net carrying amounts					
At December 31, 2021	7,294	45,564	3,605	5,307	61,770
At December 31, 2022	**7,847**	**48,152**	**2,806**	**6,925**	**65,729**

The carrying amount of property, plant and equipment increased by EUR 4.0 billion compared to December 31, 2021 to EUR 65.7 billion. Additions of EUR 18.2 billion for the upgrade and build-out of the network and in connection with the broadband/fiber-optic build-out and mobile infrastructure build-out increased the carrying amount. The modification of the arrangements between T-Mobile US and Crown Castle for existing cell sites increased the carrying amount by EUR 0.8 billion. Exchange rate effects, primarily from the translation of U.S. dollars into euros, also increased the carrying amount by EUR 1.5 billion. Reclassifications of lease assets upon expiry of the contractual lease term to property, plant and equipment, in the United States operating segment in particular, increased the carrying amount by EUR 0.6 billion, while depreciation and impairment losses of EUR 13.7 billion had an offsetting effect. This includes impairment losses of EUR 0.7 billion, mainly relating to the impairment test described below of the former Sprint's fiber-optic-based wireline assets carried out in the second quarter of 2022 and the corresponding sale agreed in the third quarter of 2022. The reclassification of assets worth EUR 1.5 billion to non-current assets and disposal groups held for sale reduced the carrying amount. These relate to the agreements on the sale of the GD tower companies and of the wireline business in the United States. Disposals of EUR 1.1 billion also reduced the carrying amount.

For further information on the aforementioned business transactions, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

For further information on depreciation, amortization and impairment losses, please refer to Notes 6 "Intangible assets" and 27 "Depreciation, amortization and impairment losses."

Deutsche Telekom had commitments for the acquisition of property, plant and equipment in the amount of EUR 6.8 billion as of the reporting date (December 31, 2021: EUR 5.9 billion). Restoration obligations of EUR 0.5 billion were recognized as of December 31, 2022 (December 31, 2021: EUR 0.7 billion), mainly attributable to restoration obligations of T-Mobile US.

For further information, please refer to Note 41 "Other financial obligations."

8 Right-of-use assets – lessee relationships

millions of €	Land and equivalent rights, and buildings including buildings on land owned by third parties	Technical equipment and machinery	Other equipment, operating and office equipment	Total
Carrying amounts of right-of-use assets by class of underlying asset				
At December 31, 2020	**6,638**	**23,552**	**111**	**30,302**
Currency translation	175	1,882	1	2,058
Changes in the composition of the Group	1	256	(1)	256
Additions	1,601	3,844	41	5,486
Disposals	(251)	(154)	(14)	(419)
Depreciation	(1,476)	(4,607)	(51)	(6,134)
Impairment losses	(10)	(26)	0	(37)
Reclassifications	(1)	(197)	0	(198)
Reversal of impairment losses	0	0	0	0
Change from non-current assets and disposal groups held for sale	(510)	0	(28)	(537)
At December 31, 2021	**6,168**	**24,550**	**60**	**30,777**
Currency translation	104	1,907	0	2,011
Changes in the composition of the Group	(2)	0	0	(2)
Additions	1,016	9,463	34	10,513
Disposals	(126)	(147)	(2)	(275)
Depreciation	(1,302)	(5,564)	(30)	(6,896)
Impairment losses	(18)	(289)	0	(308)
Reclassifications	138	(723)	0	(585)
Reversal of impairment losses	0	0	0	0
Change from non-current assets and disposal groups held for sale	(1,530)	20	0	(1,510)
At December 31, 2022	**4,449**	**29,217**	**61**	**33,727**

The carrying amount of the right-of-use assets increased by EUR 3.0 billion compared to December 31, 2021 to EUR 33.7 billion. This increase was driven by additions of EUR 10.5 billion, primarily as a result of the modification to existing leases agreed between T-Mobile US and Crown Castle in January 2022, mainly concerning the lease of Crown Castle's cell sites. This agreement includes a modification of the monthly lease payments for existing cell sites and an extension of the non-cancelable lease term until December 31, 2033 (with additional extension options). The modification of the arrangements resulted in an increase of USD 7.3 billion (EUR 6.6 billion) each in the right-of-use assets and in lease liabilities, and an increase of USD 0.9 billion (EUR 0.8 billion) each in property, plant and equipment and in other financial liabilities for contract components that, due to their financing character, do not fall under the scope of IFRS 16. Exchange rate effects, primarily from the translation of U.S. dollars into euros, also increased the carrying amount by EUR 2.0 billion. Depreciation, amortization and impairment losses of EUR 7.2 billion reduced the carrying amount. This included a EUR 1.6 billion increase in depreciation and amortization due to a reduction in the useful life of leased network technology for cell sites in the United States operating segment following the business combination of T-Mobile US and Sprint. This also includes impairment losses of EUR 0.3 billion, mainly relating to the impairment test of the former Sprint's fiber-optic-based wireline assets, which was carried out in the second quarter of 2022, and the corresponding sale agreed in the third quarter of 2022. The reclassification of assets worth EUR 1.5 billion to non-current assets and disposal groups held for sale reduced the carrying amount. These relate to the agreements on the sale of the GD tower companies and of the wireline business in the United States. Reclassifications of lease assets upon expiry of the contractual lease term to property, plant and equipment, in the United States operating segment in particular, also reduced the carrying amount by EUR 0.6 billion. Disposals of EUR 0.3 billion also reduced the carrying amount.

For further information on the aforementioned business transactions, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

For further information on depreciation, amortization and impairment losses, please refer to Notes 6 "Intangible assets" and 27 "Depreciation, amortization and impairment losses."

For information on corresponding lease liabilities, please refer to Note 13 "Financial liabilities and lease liabilities."

The right-of-use assets recognized in the statement of financial position relate in particular to leases for cell sites, network infrastructure, and real estate in the United States operating segment.

Leases can include extension and termination options that can have a substantial impact on the period of depreciation of the right-of-use assets if it is deemed to be reasonably certain that extension options will be exercised or termination options will not be exercised.

For further information, please refer to the section "Accounting policies" under "Summary of accounting policies."

The right-of-use assets for land and equivalent rights, and buildings including buildings on land owned by third parties include right-of-use assets related to data centers with a carrying amount of EUR 117 million (December 31, 2021: EUR 147 million). The corresponding additions amounted to EUR 7 million (2021: EUR 62 million) and the depreciation to EUR 38 million (2021: EUR 34 million). In addition, the right-of-use assets for technical equipment and machinery also include right-of-use assets related to data centers with a carrying amount of EUR 18 million (December 31, 2021: EUR 23 million). The corresponding depreciation amounted to EUR 5 million in the reporting year (2021: EUR 7 million).

No significant gains or losses from sale and leaseback transactions were recorded in the reporting year. In the prior year, the gain from the sale-and-leaseback transaction in connection with the combination of the cell tower business in the Netherlands and the set-up of an infrastructure fund totaled EUR 0.1 billion, EUR 12 million of which was recognized directly in profit or loss. The remainder was to be released to profit or loss over the residual useful lives of the right-of-use assets recognized at T-Mobile Netherlands. In the reporting year, the remainder was recognized directly in profit or loss as part of the deconsolidation as a result of the sale of T-Mobile Netherlands on March 31, 2022.

For further information, please refer to the section "Accounting policies" under "Summary of accounting policies."

9 Capitalized contract costs

millions of €	Dec. 31, 2022	Dec. 31, 2021
Costs of obtaining a contract	3,194	2,574
Costs to fulfill a contract	11	11
	3,205	**2,585**

As of December 31, 2022, the carrying amount of capitalized contract costs stood at EUR 3.2 billion and was thus EUR 0.6 billion higher than at the end of the prior year. This increase was attributable in particular to a higher level of capitalized costs of obtaining a contract in postpaid customer business in the United States and Germany operating segments. The costs of obtaining a contract mainly include sales commissions paid to employees and third-party retailers in the direct and indirect sales channel. Overall, capitalized contract costs of EUR 2,343 million (2021: EUR 1,832 million) were written down on a straight-line basis over the estimated customer retention period. Exchange rate effects, primarily from the translation from U.S. dollars into euros, increased the carrying amount.

10 Investments accounted for using the equity method

Deutsche Telekom publishes the following information on significant investments included in the consolidated financial statements using the equity method:

	Deutsche Telekom share		Percentage of voting rights		Assigned to segment	Fair value of the investment, if a listed market price is available	
Name and registered office	Dec. 31, 2022 %	Dec. 31, 2021 %	Dec. 31, 2022 %	Dec. 31, 2021 %		Dec. 31, 2022 millions of €	Dec. 31, 2021 millions of €
JP Hrvatske telekomunikacije d.d. Mostar, Mostar, Bosnia-Herzegovina[a]	39.10	39.10	39.10	39.10	Europe	19	28
GlasfaserPlus Holding GmbH & Co. KG, Cologne, Germany[b]	50.00	n.a.	50.00	n.a.	Germany	n.a.	n.a.
T-Mobile USA Tower LLC, Wilmington, United States[c]	100.00	100.00	100.00	100.00	United States	n.a.	n.a.
T-Mobile West Tower LLC, Wilmington, United States[c]	100.00	100.00	100.00	100.00	United States	n.a.	n.a.
Digital Infrastructure Vehicle II SCSp SICAV-RAIF, Senningerberg, Luxembourg[d]	41.25	n.a.	41.25	n.a.	Group Development	n.a.	n.a.
Cellnex Netherlands B.V., Utrecht, Netherlands[e]	n.a.	37.65	n.a.	37.65	Group Development	n.a.	n.a.

[a] Indirect shareholding via Hrvatski Telekom d.d., Croatia (Deutsche Telekom AG's share: 53.02 %).

[b] Indirect shareholding via Telekom Deutschland GmbH (Deutsche Telekom AG's share: 100.00 %). The shareholding has been included in Deutsche Telekom's consolidated financial statements using the equity method since February 28, 2022.

[c] Indirect shareholding via T-Mobile US, Inc., United States (Deutsche Telekom AG's share: 48.14 %).

[d] The shareholding has been included in Deutsche Telekom's consolidated financial statements using the equity method since August 2, 2022.

[e] Disposal as a result of the deconsolidation of DIV II as of August 2, 2022. Previously, the stake in Cellnex Netherlands B.V. was indirectly included in the consolidated financial statements through the investment in DIV II as an investment accounted for using the equity method.

Description of the nature of the activities of the joint arrangement or associate

JP Hrvatske telekomunikacije d.d. (HT Mostar d.d.), a joint venture between Hrvatski Telekom d.d. and the state of Bosnia-Herzegovina, provides mobile and fixed-network telecommunications services in Bosnia-Herzegovina.

GlasfaserPlus Holding GmbH & Co. KG with its subsidiary GlasfaserPlus GmbH (GlasfaserPlus entities), a joint venture between Deutsche Telekom and the IFM Global Infrastructure Fund, is engaged in the planning, construction, and operation of fiber-optic network infrastructure to the building or user (FTTH), and offering bitstream access products to wholesale customers to serve end customers on the mass market.

For further information on the transaction with GlasfaserPlus, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

T-Mobile USA Tower LLC and T-Mobile West Tower LLC are structured entities founded by T-Mobile US in each of which it holds a 100 % stake for the purpose of contributing cell sites in accordance with a framework agreement signed in 2012 between T-Mobile US and Crown Castle International Corp., Houston, United States, concerning the leasing and use of the cell sites. The sole right to continue to use and lease out these sites was transferred to Crown Castle. T-Mobile US continues to operate its mobile equipment on these cell towers and, to this end, leases back the required capacity from Crown Castle. Previously unused infrastructure is thus available for Crown Castle to lease to third parties. In return, the owners of the land on which the cell towers are built will no longer receive lease payments from T-Mobile US for those cell towers that were contributed to the two associates and those companies that were disposed of. Both entities were deconsolidated as of the date of the closing of the transaction in 2012, because Crown Castle independently operates the cell towers, generates revenues from leasing out the sites for an average of 27 years, and determines the finance and business activities of both entities that are relevant for consolidation purposes. It is expected that the leasing of tower space will allow Crown Castle to generate sufficient ongoing profits and cash flows to be able to meet its contractual obligations. Thus Deutsche Telekom has only a significant influence and includes these companies in the consolidated financial statements as associates. Under certain conditions, T-Mobile US will continue to be held liable for any default in the lease payment by Crown Castle to the owners of the underlying land of the cell sites. The agreement includes an extremely low maximum guarantee amount for Deutsche Telekom, since in the unlikely event that this case occurs, T-Mobile US could take over the further use of the relevant cell sites or alternatively terminate the contracts with the owners of the cell site land at short notice. At closing, T-Mobile US established an immaterial cash reserve in the entities sufficient to fund the payment of ongoing administrative expenses not payable by Crown Castle. Aside from the guarantee and the payment of administrative expenses, there is no other funding obligation by T-Mobile US.

Digital Infrastructure Vehicle II SCSp SICAV-RAIF (DIV II) is an investment company with a portfolio of shareholdings in companies engaged in the development and operation of digital infrastructure projects, such as mobile infrastructure, fiber-optic networks, data centers, and related fields, with a focus on Europe.

For further information on the associate DIV II and on the admission of new limited partners to the infrastructure fund, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

The following tables provide summarized financial information on the main companies included in the consolidated financial statements and accounted for using the equity method. The data is not based on the stakes attributable to Deutsche Telekom AG, but represents the shareholdings on an assumed 100 % basis.

Summarized financial information on the main entities accounted for using the equity method

millions of €

	HT Mostar d.d.		GlasfaserPlus[a]	
	Dec. 31, 2022/ 2022	Dec. 31, 2021/ 2021	**Dec. 31, 2022/ 2022**	Dec. 31, 2021/ 2021
Current assets	69	38	82	n.a.
Of which: cash and cash equivalents	24	10	61	n.a.
Non-current assets	143	173	299	n.a.
Current liabilities	31	26	199	n.a.
Of which: financial liabilities	3	3	70	n.a.
Non-current liabilities	11	15	0	n.a.
Of which: financial liabilities	10	10	0	n.a.
Net revenue	41	39	0	n.a.
Profit (loss)	0	0	4	n.a.
Other comprehensive income	0	0	0	n.a.
Total comprehensive income	0	0	4	n.a.
Depreciation, amortization and impairment losses	(10)	(10)	0	n.a.
Interest income	0	0	0	n.a.
Interest expense	0	0	(10)	n.a.
Income taxes	0	0	(4)	n.a.
Dividends paid to Deutsche Telekom	0	0	0	n.a.

[a] Consolidated subgroup.

millions of €

	T-Mobile USA Tower LLC		T-Mobile West Tower LLC	
	Dec. 31, 2022/ 2022	Dec. 31, 2021/ 2021	**Dec. 31, 2022/ 2022**	Dec. 31, 2021/ 2021
Current assets	0	0	0	0
Non-current assets	158	138	211	184
Current liabilities	0	0	0	0
Non-current liabilities	0	0	0	0
Net revenue	0	0	0	0
Profit (loss)	0	0	0	0
Other comprehensive income	0	0	0	0
Total comprehensive income	0	0	0	0
Dividends paid to Deutsche Telekom	0	0	0	0

millions of €

	DIV II[a]	
	Dec. 31, 2022/ 2022	Dec. 31, 2021/ 2021
Current assets	3	n.a.
Of which: cash and cash equivalents	3	n.a.
Non-current assets	577	n.a.
Current liabilities	2	n.a.
Of which: financial liabilities	0	n.a.
Non-current liabilities	0	n.a.
Of which: financial liabilities	0	n.a.
Net revenue	0	n.a.
Profit (loss)	18	n.a.
Other comprehensive income	0	n.a.
Total comprehensive income	18	n.a.
Depreciation, amortization and impairment losses	0	n.a.
Dividends paid to Deutsche Telekom	0	n.a.

[a] As financial data of DIV II as of December 31, 2022 was not yet available in its entirety to Deutsche Telekom at the date of preparation, the interim financial statements of DIV II as of September 30, 2022 were used as a basis for the summarized financial information and for the reconciliation statement to the carrying amount reported in Deutsche Telekom's consolidated statement of financial position.

Reconciliation to the carrying amount included in the consolidated statement of financial position

millions of €

	HT Mostar d.d.		GlasfaserPlus[a]	
	2022	2021	**2022**	2021
Net assets as of January 1[b]	**171**	**170**	**n.a.**	**n.a.**
Net assets as of date of inclusion in the consolidated financial statements using the equity method[b]	n.a.	n.a.	182	n.a.
Profit (loss)	0	0	0	n.a.
Other comprehensive income	0	0	0	n.a.
Exchange rate effects	(1)	1	0	n.a.
Net assets as of December 31	**170**	**171**	**182**	**n.a.**
Share of net assets attributable to Deutsche Telekom as of December 31	**66**	**67**	**91**	**n.a.**
Goodwill – equity method	0	0	886	n.a.
Impairment	(19)	0	(517)	n.a.
Other reconciliation effects	(15)	(17)	(4)	n.a.
Carrying amount as of December 31	**32**	**50**	**456**	**n.a.**

[a] Consolidated subgroup.
[b] The shareholding in GlasfaserPlus has been included in the consolidated financial statements using the equity method since February 28, 2022.

millions of €

	T-Mobile USA Tower LLC		T-Mobile West Tower LLC	
	2022	2021	**2022**	2021
Net assets as of January 1	**138**	**117**	**185**	**157**
Profit (loss)	11	11	15	14
Other comprehensive income	0	0	0	0
Dividends paid	0	0	0	0
Exchange rate effects	8	10	11	14
Net assets as of December 31	**157**	**138**	**211**	**185**
Share of net assets attributable to Deutsche Telekom as of December 31	**157**	**138**	**211**	**185**
Adjustment of carrying amount	0	0	0	0
Other reconciliation effects	0	0	0	0
Carrying amount as of December 31	**157**	**138**	**211**	**185**

millions of €

	DIV II[a]	
	2022	2021
Net assets as of January 1[b]	**n.a.**	**n.a.**
Net assets as of date of inclusion in the consolidated financial statements using the equity method[b]	578	n.a.
Profit (loss)	0	n.a.
Other comprehensive income	0	n.a.
Dividends paid	0	n.a.
Net assets as of December 31	**578**	**n.a.**
Share of net assets attributable to Deutsche Telekom as of December 31	**238**	**n.a.**
Other reconciliation effects	43	n.a.
Carrying amount as of December 31	**281**	**n.a.**

[a] As financial data of DIV II as of December 31, 2022 was not yet available in its entirety to Deutsche Telekom at the date of preparation, the interim financial statements of DIV II as of September 30, 2022 were used as a basis for the summarized financial information and for the reconciliation statement to the carrying amount reported in Deutsche Telekom's consolidated statement of financial position.
[b] The shareholding has been included in Deutsche Telekom's consolidated financial statements using the equity method since August 2, 2022.

In the 2022 and 2021 financial years, the consolidated financial statements did not include any unrecognized losses in connection with investments accounted for using the equity method.

Summarized aggregate financial information on non-significant entities accounted for using the equity method
The figures relate to the interests attributable to Deutsche Telekom.

millions of €	Joint ventures		Associates	
	Dec. 31, 2022/ 2022	Dec. 31, 2021/ 2021	**Dec. 31, 2022/ 2022**	Dec. 31, 2021/ 2021
Total carrying amounts	60	56	121	112
Total share in profit (loss)	(1)	(34)	(13)	(5)
Other comprehensive income	0	0	0	0
Total comprehensive income	**(1)**	**(34)**	**(13)**	**(5)**

11 Other financial assets

millions of €	Dec. 31, 2022		Dec. 31, 2021	
	Total	**Of which: current**	Total	Of which: current
Originated loans and receivables	4,315	3,894	3,426	3,026
Other receivables – publicly funded projects	2,019	723	1,794	743
Debt instruments – measured at fair value through profit or loss	646	5	233	6
Derivative financial assets	2,273	153	2,762	189
Of which: derivatives with a hedging relationship	1,034	64	1,560	89
Of which: derivatives without a hedging relationship	1,239	90	1,202	100
Equity instruments – measured at fair value through profit or loss	3	0	3	0
Equity instruments – measured at fair value through other comprehensive income	446	0	437	0
Lease assets	205	90	228	88
Other	3	0	4	0
	9,910	**4,865**	**8,888**	**4,051**

The carrying amount of current and non-current other financial assets increased by EUR 1.0 billion compared to December 31, 2021 to EUR 9.9 billion.

The net total of originated loans and receivables increased by EUR 0.9 billion to EUR 4.3 billion, with the carrying amount of cash collateral deposited increasing by EUR 0.9 billion. Group companies deposited cash collateral of EUR 2 million as of December 31, 2022 (December 31, 2021: EUR 90 million) in connection with auctions for the planned acquisition of spectrum licenses. At the reporting date, cash and cash equivalents of EUR 63 million when translated into euros (December 31, 2021: EUR 76 million) were pledged as collateral for liabilities with the right of creditors to priority repayment in the event of default. Collateral agreements as surety for potential credit risks arising from derivative transactions in connection with forward-payer swaps gave rise to receivables of EUR 1,411 million as of the reporting date (December 31, 2021: EUR 423 million).

In connection with receivables from grants still to be received from funding projects for the broadband build-out in Germany, the carrying amount of other receivables increased by EUR 0.2 billion to EUR 2.0 billion.

The carrying amount of debt instruments measured at fair value through profit or loss increased by EUR 0.4 billion to EUR 0.6 billion. A contingent consideration receivable was recorded in connection with the sale of a 50 % stake in GlasfaserPlus. As the remainder of the purchase price, this receivable will fall due in stages upon achieving certain build-out milestones and, as of December 31, 2022, amounted to EUR 0.4 billion.

The carrying amount of derivatives with a hedging relationship decreased by EUR 0.5 billion to EUR 1.0 billion, due on the one hand to the decrease in positive fair values from interest rate swaps in fair value hedges, which is primarily the result of a significant increase in the interest rate level. On the other hand, the fair values of interest rate and currency derivatives in cash flow hedges increased, primarily as a result of the significant rise in the interest rate level.

The carrying amount of derivatives without a hedging relationship remained stable overall at EUR 1.2 billion. This is due on the one hand to a EUR 0.2 billion increase in the carrying amount of interest and currency derivatives. In connection with the stock options received from SoftBank to purchase shares in T-Mobile US, the carrying amount of the stock options recorded a net increase of EUR 0.1 billion against December 31, 2021. This was attributable to an increase of EUR 0.6 billion from positive measurements effects in connection with the development of the T-Mobile US share price and the amortization in full from the initial measurement of the stock options at fair value. On the other hand, this was offset by the derecognition of the exercised options in April 2022. At the time of exercising the stock options, they had a fair value of EUR 0.5 billion. The carrying amount of the derivatives without a hedging relationship decreased by EUR 0.3 billion in connection with negative measurement effects from derivatives embedded in bonds issued by T-Mobile US. The carrying amount of energy forward agreements embedded in contracts remained stable against December 31, 2021.

For further information on allowances, stock options, and the credit ratings of originated loans and receivables, please refer to Note 42 “Financial instruments and risk management.”

12 Other assets

The carrying amount of current and non-current other assets increased by EUR 0.2 billion to EUR 3.3 billion. As of December 31, 2022, the carrying amount included various advance payments, totaling EUR 2.7 billion (December 31, 2021: EUR 2.6 billion), mainly including advance payments in connection with agreements on services for certain mobile communications equipment that do not fall under the scope of IFRS 16. Exchange rate effects, in particular from the translation of U.S. dollars into euros, raised the carrying amount by EUR 0.1 billion.

13 Financial liabilities and lease liabilities

The following table shows the composition and maturity structure of **financial liabilities** as of December 31, 2022:

millions of €

	Dec. 31, 2022				Dec. 31, 2021			
	Total	**Due within 1 year**	**Due > 1 year ≤ 5 years**	**Due > 5 years**	Total	Due within 1 year	Due > 1 year ≤ 5 years	Due > 5 years
Bonds and other securitized liabilities	93,802	9,377	26,709	57,715	93,857	5,941	24,673	63,242
Liabilities to banks	4,122	1,442	1,627	1,053	4,003	1,540	1,646	817
	97,924	**10,819**	**28,336**	**58,768**	**97,860**	**7,481**	**26,319**	**64,059**
Liabilities with the right of creditors to priority repayment in the event of default	2,925	750	2,006	168	3,248	463	2,288	496
Other interest-bearing liabilities	7,526	1,130	3,010	3,387	7,826	2,753	2,315	2,758
Liabilities from deferred interest[a]	999	999	0	0	1,012	1,012	0	0
Other non-interest-bearing liabilities[a]	769	583	172	14	816	486	145	185
Derivative financial liabilities	2,889	108	797	1,984	703	47	625	31
	15,107	**3,570**	**5,985**	**5,552**	**13,607**	**4,762**	**5,374**	**3,471**
Financial liabilities	**113,030**	**14,389**	**34,321**	**64,320**	**111,466**	**12,243**	**31,693**	**67,530**
Lease liabilities	**38,792**	**5,126**	**13,984**	**19,682**	**33,133**	**5,040**	**13,517**	**14,577**

[a] Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year onward. Prior-year comparatives were adjusted retrospectively.

The carrying amount of current and non-current financial liabilities increased by EUR 1.6 billion compared with year-end 2021 to EUR 113.0 billion, primarily due to the factors described below. Exchange rate effects, in particular from the translation of U.S. dollars into euros, raised the carrying amount by EUR 4.3 billion.

The carrying amount of bonds and other securitized liabilities decreased by EUR 0.1 billion in total. Exchange rate effects increased the carrying amount of bonds and other securitized liabilities by EUR 3.9 billion. The carrying amount was also increased by senior notes issued by T-Mobile US in the reporting year with a total volume of USD 3.0 billion (EUR 3.0 billion) with terms ending between 2033 and 2062 and bearing interest of between 5.2 and 5.8 %, and by asset-backed securities (ABS notes) with a volume of USD 0.8 billion (EUR 0.8 billion). The net change of EUR 2.3 billion in commercial paper also increased the carrying amount. Repayments by T-Mobile US of bonds with a total volume of USD 2.8 billion (EUR 2.7 billion) and in the Group of EUR bonds with a volume of EUR 2.6 billion and a GBP bond with a volume of GBP 0.7 billion (EUR 0.8 billion) reduced the carrying amount. In addition, the carrying amount decreased by EUR 3.5 billion in connection with measurement effects from derivatives with a hedging relationship, the offsetting entry for which is posted under bonds and other securitized liabilities. This is mainly due to the decline in fair values from interest rate swaps in fair value hedges, which is primarily the result of a significant increase in the interest rate level. The subsequent measurement under the effective interest method reduced the carrying amount by EUR 0.3 billion.

The carrying amount of liabilities to banks increased by EUR 0.1 billion compared with December 31, 2021 to EUR 4.1 billion. The carrying amount was increased by new borrowings of EUR 0.7 billion and the net increase of EUR 0.2 billion in the balance of short-term borrowings. Exchange rate effects increased the carrying amount by EUR 0.1 billion. It was reduced by repayments of EUR 0.5 billion and a decrease of EUR 0.2 billion in connection with measurement effects from derivatives with a hedging relationship.

The liabilities with the right of creditors to priority repayment in the event of default of EUR 2.9 billion (December 31, 2021: EUR 3.2 billion) relate primarily to bonds issued by Sprint. Collateral was provided for these bonds, hence they constitute a separate class of financial instruments. Repayments in the reporting period in the amount of EUR 0.5 billion when translated into euros reduced the carrying amount. Exchange rate effects increased the carrying amount by EUR 0.1 billion. At the reporting date, cash and cash equivalents with a carrying amount of EUR 63 million (December 31, 2021: EUR 76 million) when translated into euros were pledged as collateral for these bonds.

The carrying amount of other interest-bearing liabilities decreased by EUR 0.3 billion compared with December 31, 2021 to EUR 7.5 billion. In connection with cash collateral received for derivative financial instruments – primarily forward-payer swaps – the carrying amount of other interest-bearing liabilities decreased by EUR 1.5 billion. By contrast, the modification of the arrangements between T-Mobile US and Crown Castle regarding cell sites increased the carrying amount by EUR 0.8 billion. In addition, liabilities recognized by T-Mobile US for future payments for IP transit services in connection with the agreement on the sale of the wireline business increased the carrying amount by EUR 0.6 billion. Exchange rate effects, especially from the translation of U.S. dollars into euros, increased the carrying amount of other interest-bearing liabilities by EUR 0.1 billion.

For further information on cash collateral, please refer to Note 42 “Financial instruments and risk management.”

For further information on the modification of the arrangements between T-Mobile US and Crown Castle, please refer to Note 8 “Right-of-use assets – lessee relationships.”

For further information on the agreement on the sale of the wireline business in the United States, please refer to the section “Changes in the composition of the Group and other transactions” under “Summary of accounting policies.”

The carrying amount of derivative financial liabilities increased by EUR 2.2 billion to EUR 2.9 billion. Negative measurement effects of derivatives with a hedging relationship increased the carrying amount, mainly due to the increase in negative fair values from interest rate swaps in fair value hedges, which is primarily the result of a significant increase in the interest rate level. The carrying amount was reduced by positive measurement effects from a forward transaction to hedge the price of acquiring T-Mobile US shares in the future.

For further information on derivative financial liabilities, please refer to Note 42 “Financial instruments and risk management.”

Deutsche Telekom has established ongoing liquidity management. To ensure the Group’s and Deutsche Telekom AG’s solvency and financial flexibility at all times, Deutsche Telekom maintains a liquidity reserve in the form of credit lines and cash. This liquidity reserve is to cover the capital market maturities of the next 24 months at any time. Since the business combination between T-Mobile US and Sprint, T-Mobile US has pursued its own separate financing and liquidity strategy.

At December 31, 2022, Deutsche Telekom (excluding T-Mobile US) had standardized bilateral credit agreements with 21 banks for a total of EUR 12.6 billion. As of December 31, 2022, EUR 0.2 billion of these credit lines had been utilized. Pursuant to the credit agreements, the terms and conditions depend on Deutsche Telekom’s rating. The bilateral credit agreements have an original maturity of 36 months and can, after each period of 12 months, be extended by a further 12 months to renew the maturity of 36 months. From today’s perspective, access to the international debt capital markets is not jeopardized.

Furthermore, bilateral credit lines with an aggregate total volume of USD 7.5 billion (EUR 7.0 billion) plus a cash balance of USD 4.6 billion (EUR 4.3 billion) were available to T-Mobile US as of December 31, 2022. None of these credit lines had been utilized as of December 31, 2022.

The carrying amount of current and non-current **lease liabilities** increased by EUR 5.7 billion to EUR 38.8 billion compared with December 31, 2021. This increase primarily relates to the modification of the arrangements between T-Mobile US and Crown Castle, which resulted in an increase in the carrying amounts of lease liabilities of EUR 6.6 billion. Exchange rate effects, in particular from the translation of U.S. dollars into euros, raised the carrying amount by EUR 2.1 billion. The reclassification of lease liabilities to liabilities directly associated with non-current assets and disposal groups held for sale reduced the carrying amount by EUR 1.8 billion. These relate to the agreements on the sale of the GD tower companies and of the wireline business in the United States. The carrying amount was further reduced, in part in connection with the decommissioning of former Sprint cell sites and the closure of some former Sprint shops in the United States operating segment. The carrying amount was also reduced by declines in the Group Headquarters & Group Services segment and in the Systems Solutions operating segment.

For further information on lessee relationships, please refer to Note 8 “Right of use assets – lessee relationships.”

For further information on the modification of the arrangements between T-Mobile US and Crown Castle, please also refer to Note 8 “Right-of-use assets – lessee relationships.”

In the reporting year and in the previous year, there were no significant expenses for variable lease payments that were not included in the measurement of lease liabilities.

As of December 31, 2022, future payment obligations for leases that have not yet begun and which are not taken into account in the measurement of lease liabilities amounted to EUR 0.2 billion (December 31, 2021: EUR 0.1 billion).

The following tables show the contractually agreed (undiscounted) interest payments and repayments of the non-derivative financial liabilities, the lease liabilities, and the derivatives with positive and negative fair values:

millions of €

	Carrying amount Dec. 31, 2022	Cash flows in 2023			Cash flows in 2024		
		Fixed interest rate	Variable interest rate	Repayment	Fixed interest rate	Variable interest rate	Repayment
Non-derivative financial liabilities							
Bonds, other securitized liabilities, liabilities to banks, and similar liabilities.	(97,924)	(2,825)	0	(9,809)	(3,374)	0	(5,505)
Liabilities with the right of creditors to priority repayment in the event of default	(2,925)	(129)	0	(750)	(89)	0	(836)
Other interest-bearing liabilities	(7,526)	(221)	(1)	(1,110)	(197)	(0)	(948)
Liabilities from deferred interest	(999)			(999)			
Other non-interest-bearing liabilities	(769)	(0)	(0)	(597)	0	0	(117)
Lease liabilities	(38,792)	(1,409)	(0)	(5,132)	(1,262)	0	(4,592)
Derivative financial liabilities and assets							
Derivative financial liabilities:							
Currency derivatives without a hedging relationship	(41)			(56)			0
Currency derivatives in connection with cash flow hedges	(10)			(7)			0
Currency derivatives in connection with net investment hedges							
Embedded derivatives without a hedging relationship	(55)			(3)			(6)
Other derivatives without a hedging relationship	(108)		(151)	4		(80)	132
Interest rate derivatives without a hedging relationship	(163)	46	(90)	0	25	(31)	0
Interest rate derivatives in connection with fair value hedges	(2,477)	595	(806)	(22)	559	(735)	0
Interest rate derivatives in connection with cash flow hedges	(34)	(83)	59	0	(83)	59	0
Derivative financial assets[a]:							
Currency derivatives without a hedging relationship	50			50			
Currency derivatives in connection with cash flow hedges	26			25			
Embedded derivatives without a hedging relationship	200			28			22
Other derivatives without a hedging relationship	12			11			24
Interest rate derivatives without a hedging relationship	457	(42)	188	34	(21)	125	22
Interest rate derivatives in connection with fair value hedges							
Interest rate derivatives in connection with cash flow hedges	1,008	(73)	254	0	(78)	214	0
Financial guarantees and loan commitments							**(430)**

[a] Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year. Prior-year comparatives were adjusted retrospectively.

For information on the guarantees to Glasfaser NordWest, please refer to Note 44 "Related party disclosures."

millions of €

	Cash flows in 2025–2027			Cash flows in 2028–2032			Cash flows in 2033 and thereafter		
	Fixed interest rate	Variable interest rate	Repayment	Fixed interest rate	Variable interest rate	Repayment	Fixed interest rate	Variable interest rate	Repayment
Non-derivative financial liabilities									
Bonds, other securitized liabilities, liabilities to banks, and similar liabilities.	(8,685)	0	(22,519)	(8,501)	0	(37,562)	(12,755)	0	(23,207)
Liabilities with the right of creditors to priority repayment in the event of default	(101)	0	(1,155)	(1)	0	(86)	0	0	0
Other interest-bearing liabilities	(427)	(0)	(1,919)	(1,114)	(0)	(3,415)	(23)	0	(134)
Liabilities from deferred interest									
Other non-interest-bearing liabilities	0	0	(28)	0	0	(26)	0	0	(1)
Lease liabilities	(2,979)	0	(9,495)	(2,933)	0	(19,344)	(70)	0	(242)
Derivative financial liabilities and assets									
Derivative financial liabilities:									
Currency derivatives without a hedging relationship			0			0			0
Currency derivatives in connection with cash flow hedges			0			0			0
Currency derivatives in connection with net investment hedges									
Embedded derivatives without a hedging relationship			(14)			(29)			(3)
Other derivatives without a hedging relationship			7			(8)			(13)
Interest rate derivatives without a hedging relationship	29	(32)	(54)	39	(19)	(33)	0	77	(6)
Interest rate derivatives in connection with fair value hedges	1,534	(1,899)	(12)	1,401	(1,710)	82	1,742	(2,623)	(3)
Interest rate derivatives in connection with cash flow hedges	(248)	176	0	(432)	293	9	(698)	481	0
Derivative financial assets[a]:									
Currency derivatives without a hedging relationship									
Currency derivatives in connection with cash flow hedges									
Embedded derivatives without a hedging relationship			68			139			73
Other derivatives without a hedging relationship			32			(13)			(35)
Interest rate derivatives without a hedging relationship	(7)	322	76	0	380	67	0	951	211
Interest rate derivatives in connection with fair value hedges									
Interest rate derivatives in connection with cash flow hedges	(141)	328	0	(239)	305	390	(1,016)	938	8
Financial guarantees and loan commitments									

[a] Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year. Prior-year comparatives were adjusted retrospectively.

millions of €

	Carrying amount Dec. 31, 2021	Cash flows in 2022	2023	2024–2026	2027–2031	2032 and thereafter
Non-derivative financial liabilities						
Bonds, other securitized liabilities, liabilities to banks, and similar liabilities.	(97,860)	(9,276)	(10,519)	(27,005)	(47,984)	(33,850)
Liabilities with the right of creditors to priority repayment in the event of default	(3,248)	(526)	(829)	(1,718)	(422)	0
Other interest-bearing liabilities	(7,826)	(2,725)	(820)	(1,421)	(2,498)	(64)
Liabilities from deferred interest	(1,012)	(1,012)	0	0	0	0
Other non-interest-bearing liabilities	(816)	(487)	(120)	(26)	(178)	(7)
Lease liabilities	(33,133)	(5,607)	(5,334)	(11,289)	(16,735)	(503)
Derivative financial liabilities and assets						
Derivative financial liabilities:						
Currency derivatives without a hedging relationship	(15)	(13)	0	0	0	0
Currency derivatives in connection with cash flow hedges	(1)	(3)	0	0	0	0
Embedded derivatives without a hedging relationship	(7)	(8)	(1)	(3)	(20)	(8)
Other derivatives without a hedging relationship	(455)	(22)	(22)	(421)	0	0
Interest rate derivatives without a hedging relationship	(109)	(27)	(17)	(18)	3	74
Interest rate derivatives in connection with fair value hedges	(11)	17	13	47	34	133
Interest rate derivatives in connection with cash flow hedges	(105)	(61)	(61)	(132)	0	0
Derivative financial assets[a]:						
Currency derivatives without a hedging relationship	44	42	0	0	0	0
Currency derivatives in connection with cash flow hedges	17	14	0	0	0	0
Embedded derivatives without a hedging relationship	191	26	20	38	68	62
Other derivatives without a hedging relationship	3	2	1	1	0	0
Interest rate derivatives without a hedging relationship	235	67	16	104	75	165
Interest rate derivatives in connection with fair value hedges	1,195	371	368	951	887	945
Interest rate derivatives in connection with cash flow hedges	348	113	47	136	354	55

[a] This does not include payments that Deutsche Telekom would have to make or would receive in the event of exercising options to buy or sell company shares. It is unclear whether, when, and to what extent such options will be exercised. This mainly relates to the stock options to buy shares in T-Mobile US received from SoftBank. If Deutsche Telekom were to exercise the maximum number of these stock options, it would have to make a payment of EUR 4,342 million (December 31, 2021: EUR 5,509 million) when translated into euros, based on the share price at the reporting date. For further information on these stock options, please refer to Note 42 "Financial instruments and risk management" in the disclosures on financial liabilities assigned to Level 3. Deutsche Telekom also holds other immaterial options to buy or sell company shares.

All instruments held at December 31, 2022 and for which payments were already contractually agreed were included. Planning data for future, new liabilities were not included. Amounts in foreign currency were each translated at the closing rate at the reporting date. The variable interest payments arising from the financial instruments were calculated using the last interest rates fixed before December 31, 2022. Financial liabilities that can be repaid at any time are always assigned to the earliest possible time period. In accordance with § 2 (4) of the German Act on the Transformation of the Deutsche Bundespost Enterprises into the Legal Structure of Stock Corporation (Stock Corporation Transformation Act – Postumwandlungsgesetz), the Federal Republic is guarantor of all Deutsche Telekom AG's liabilities that were already outstanding as at January 1, 1995. At December 31, 2022, this figure was a nominal EUR 0.1 billion (December 31, 2021: EUR 0.1 billion).

14 Trade and other payables

millions of €

	Dec. 31, 2022	Dec. 31, 2021
Trade payables	11,981	10,396
Other liabilities	54	56
	12,035	**10,452**

The carrying amount of trade and other payables increased by EUR 1.6 billion year-on-year to EUR 12.0 billion, due in particular to the sharp rise in procurement volumes in the United States, Germany, and Europe operating segments. In the United States operating segment, liabilities increased in connection with the acquisition of non-current assets and vis-à-vis terminal equipment vendors. The increase was also driven in part by exchange rates. The reclassification to liabilities directly associated with non-current assets and disposal groups held for sale reduced the carrying amount. These relate to the agreements on the sale of the GD tower companies and of the wireline business in the United States.

Of the total of trade and other payables, EUR 11,981 million (December 31, 2021: EUR 10,396 million) is due within one year.

15 Provisions for pensions and other employee benefits

Defined benefit plans

The Group's pension obligations are based on direct and indirect pension commitments mainly in Germany, the United States, and Switzerland. Deutsche Telekom's provisions for pensions are comprised as follows:

millions of €	Dec. 31, 2022	Dec. 31, 2021
Defined benefit liability	**4,150**	**6,134**
Defined benefit asset	(40)	(54)
Net defined benefit liability (asset)	**4,109**	**6,080**
Of which: provisions for direct commitments	3,883	5,622
Of which: provisions for indirect commitments	226	458

Defined benefit liabilities are disclosed under non-current liabilities in the consolidated statement of financial position. The defined benefit asset is recognized under other non-current assets in the consolidated statement of financial position.

The decrease in defined benefit liabilities compared with the prior year was mainly due to the higher discount rate, which was partially offset by the development of the fair values of plan assets. All this resulted in an actuarial gain of EUR 1.8 billion from the remeasurement of defined benefit plans to be recognized directly in equity.

Calculation of net defined benefit liabilities/assets

millions of €	Dec. 31, 2022	Dec. 31, 2021
Present value of the obligations fully or partially funded by plan assets	9,977	11,825
Plan assets at fair value	(6,265)	(7,937)
Defined benefit obligations in excess of plan assets	**3,712**	**3,888**
Present value of the unfunded obligations	345	2,150
Defined benefit liability (asset) according to IAS 19.63	**4,057**	**6,038**
Effect of asset ceiling (according to IAS 19.64)	52	42
Net defined benefit liability (asset)	**4,109**	**6,080**

millions of €	2022	2021
Net defined benefit liability (asset) as of January 1	**6,080**	**7,665**
Service cost	263	148
Net interest expense (income) on the net defined benefit liability (asset)	83	89
Remeasurement effects	(1,839)	(1,423)
Pension benefits paid directly by the employer	(419)	(378)
Employer contributions to plan assets	(46)	(80)
Changes attributable to business combinations/transfers of operation/acquisitions and disposals	(18)	10
Reclassifications to liabilities directly associated with non-current assets and disposal groups held for sale	(29)	0
Administration costs actually incurred (paid from plan assets)	0	0
Exchange rate fluctuations for plans in foreign currency	34	48
Net defined benefit liability (asset) as of December 31	**4,109**	**6,080**

Assumptions for the measurement of defined benefit obligations

Key assumptions for the measurement of the defined benefit obligations are the discount rate, the salary increase rate, the pension increase rate, and life expectancy. The following table shows the assumptions for the Group's relevant defined benefit obligations (Germany, United States, Switzerland) on which the measurement as of December 31 of the respective year is based. The assumptions made as of December 31 of the respective prior year are used to measure the expected pension expense (defined benefit cost) of a given financial year.

%		Dec. 31, 2022	Dec. 31, 2021	Dec. 31, 2020
Discount rate	Germany	4.13	1.18	0.85
	United States	5.59	3.05	2.75
	Switzerland	2.42	0.33	0.07
Salary increase rate	Germany	2.50	2.50	2.50
	United States[a]	n.a.	4.25	4.25
	Switzerland	1.60	1.00	1.00
Pension increase rate	Germany (general)	2.10	1.70	1.50
	Germany (according to articles of association)	1.00	1.00	1.00
	United States	n.a.	n.a.	n.a.
	Switzerland	0.10	0.10	0.10

[a] The salary increase rate in the United States has no impact on the amount of the pension obligations, since all commitments are frozen.

years		Dec. 31, 2022	Dec. 31, 2021
Duration	Germany	9.7	12.3
	United States	11.2	13.6
	Switzerland	12.3	14.9

The following biometric assumptions were essential for the measurement of pension obligations:

Germany: Heubeck 2018G, Switzerland: BVG 2020 Generational, United States: Pri-2012 tables. In Switzerland, the generally recognized demographic assumptions used when measuring pension obligations were revised as part of a regular review in 2020, and applied for the first time in 2021. This resulted in actuarial gains in 2021 of EUR 6 million or 2.6 % of the Swiss obligations.

The aforementioned discount rates were used as of December 31, 2022 when calculating the present value of defined benefit obligations, taking into account future salary increases. The rates were determined in line with the average weighted duration of the respective obligation.

The discount rate is determined based on the yields of high-quality corporate bonds with AA rating, mapped in a yield curve showing the corresponding spot rates. The underlying method is routinely reviewed and refined as required (e.g., further development of the bond markets, automation of the availability of corresponding data in terms of quantity and quality).

Development of defined benefit obligations

millions of €	2022	2021
Defined benefit obligations as of January 1	**13,975**	**14,362**
Current service cost	226	235
Interest cost	205	179
Remeasurement effects	(3,625)	(421)
Of which: experience-based adjustments	27	15
Of which: adjusted financial assumptions[a]	(3,653)	(451)
Of which: adjusted demographic assumptions	1	15
Total benefits actually paid	(573)	(483)
Contributions by plan participants	4	4
Changes attributable to business combinations/transfers of operation/acquisitions and disposals	(18)	10
Past service cost (due to plan amendments/curtailments)[b]	(3)	(87)
Settlements	40	0
Reclassifications to liabilities directly associated with non-current assets and disposal groups held for sale	(29)	0
Taxes to be paid as part of pensions	0	0
Exchange rate fluctuations for plans in foreign currency	120	176
Defined benefit obligations as of December 31	**10,322**	**13,975**
Of which: active plan participants	3,983	5,596
Of which: plan participants with vested pension rights who left the Group	2,151	2,982
Of which: benefit recipients	4,188	5,397

[a] In 2021, in addition to the majority of discount-rate adjustments, the effect from adjusted financial assumptions also includes adjusted assumptions regarding the payment of VAP pension entitlements, resulting in actuarial losses of EUR 93 million.

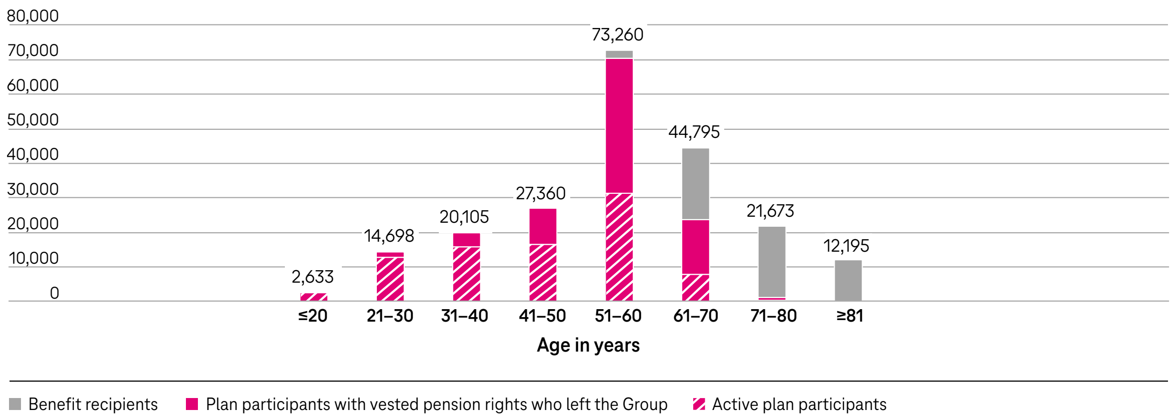
[b] The past service cost due to plan amendments in 2021 relates primarily to a restructuring of risk benefits in Germany (please refer to the following section "Global Pension Policy and description of the plans").

Distribution of obligations relating to Deutsche Telekom's most significant plans

millions of €	Dec. 31, 2022				Dec. 31, 2021			
	Germany	United States	Switzerland	Other plans	Germany	United States	Switzerland	Other plans
Defined benefit obligations	8,308	1,481	200	333	11,316	1,905	230	525
Plan assets at fair value	(4,690)	(1,162)	(252)	(161)	(6,007)	(1,346)	(271)	(313)
Effect of asset ceiling	0	0	52	0	0	0	42	0
Net defined benefit liability (asset)	**3,618**	**319**	**0**	**172**	**5,309**	**559**	**0**	**212**

The following comments on the age structure and sensitivity analysis, as well as on descriptions of plans and the risks associated with them, relate to the relevant pension obligations (Germany, United States, and Switzerland).

Age structure of plan participants in the most significant pension plans



Sensitivity analysis for the defined benefit obligations

The following sensitivity analysis describes the effects of possible adjustments in the material actuarial assumptions for measurement on the defined benefit obligations determined as of December 31, 2022. A change in the measurement assumptions to the extent described below, with otherwise unchanged assumptions, would have impacted the defined benefit obligations as of December 31, 2022 as follows:

millions of €

	Increase (decrease) of the defined benefit obligations as of Dec. 31, 2022			Increase (decrease) of the defined benefit obligations as of Dec. 31, 2021		
	Germany	United States	Switzerland	Germany	United States	Switzerland
Increase of discount rate by 100 basis points	(695)	(144)	(16)	(1,224)	(234)	(25)
Decrease of discount rate by 100 basis points	822	172	19	1,499	291	31
Increase of salary increase rate by 50 basis points	0	0	1	1	0	1
Decrease of salary increase rate by 50 basis points	0	0	(1)	0	0	(1)
Increase of pension increase rate by 25 basis points	4	0	4	5	0	5
Decrease of pension increase rate by 25 basis points	(4)	0	(1)	(5)	0	(2)
Life expectancy increase by 1 year	160	38	4	288	56	6
Life expectancy decrease by 1 year	(158)	(39)	(4)	(288)	(57)	(6)

The sensitivity analysis was carried out separately for the discount rate, the salary increase rate, and the pension increase rate. For this purpose, further actuarial evaluations were made for both the increase and for the decrease of the assumptions. It can be assumed that the life expectancy of the plan members will not change significantly within a year. Nevertheless, the effect of a change in life expectancy on the obligations was additionally determined from a risk perspective. Evaluations were carried out based on the assumption that the life expectancy of the plan members aged 65 would increase or decrease by one year. The life expectancy of the remaining plan members was adjusted accordingly. Variations in the assumed retirement age or turnover rates would only have an immaterial effect, especially in Germany.

Global Pension Policy and description of the plans

Deutsche Telekom manages its pension commitments based on the Group-wide Global Pension Policy. It ensures on a worldwide basis that Group minimum standards regarding the granting and management of company pension benefits are complied with, plans are harmonized, and financial and other risks to the core business are avoided or reduced. In addition, the policy provides guidelines for the implementation and management of pension commitments and defines requirements for the launch, adjustment, and closure of corresponding plans. The regulations and provisions laid down in this Group policy take into account the national differences in state pension and other commitments under labor, tax, and social law and the common business practices in the area of pension commitments.

Defined benefit plans based on final salaries in the Group have largely been replaced by plans with contribution-based promises to minimize the risks involved. In addition, a corporate CTA (Deutsche Telekom Trust e.V.) is used in Germany for additional funding of pension obligations. A CTA is a legally structured trust agreement to cover unfunded pension commitments with plan assets, and to provide greater protection against insolvency for these assets.

In **Germany** there are commitments for pension and disability benefits for a majority of employees as well as pension benefits for their surviving dependents. As part of a reorganization of the company pension plan, a capital account plan was introduced across Germany in 1997 for active employees. Furthermore, in subsequent years, commitments acquired through company acquisitions were also transferred to the capital account plan scheme. The capital account plan is an employer-financed, contribution-based benefit promise. The salary-linked contributions granted annually earn interest in advance for each year of provision up to age 60, calculated using age-based factors, converting the contribution into a guaranteed insured amount. The advance interest rate currently stands at 3.50 % p. a. (target interest rate for the capital account plan).

The period for providing these contributions to the capital accounts plan is initially limited to ten future contribution years. The contribution period will be extended automatically every year by a further year, unless terminated. The insured amounts accumulated over the period of active service are paid out if an insured event arises, primarily in the form of a lump sum. Hence there is only a limited longevity risk for these commitments. Based on the payment guidelines and the structure of the capital account plan, the employer can plan for this, and there is only a small risk inherent in the plan with regard to the volatility of remuneration dynamics.

In October 2020, Deutsche Telekom and the ver.di trade union had agreed to gradually restructure the collectively agreed risk benefits (death in the active phase and/or disability) in the company pension scheme for employees covered and not covered by collective agreements in Germany. Under the previous structure, the pension credit accrued through the capital account plan was paid out in the case of a risk event. The revised rules abolish this in favor of paying out a sum equivalent to an annual target salary of the employee. Grandfather clauses have been included for employees who have worked for the company for longer periods and part-time employees. These changes took effect in October 2021. As a result of the change from an annual (pro rata) contribution to payment of a lump sum, the employer has since then granted the risk benefit irrespective of the employee's length of service with the company. Risk benefit payments are thus directly recognized as expenses in the payout year. Provisions recognized according to the previous rules under provisions for pensions and other employee benefits for entitlements after the restructuring takes effect were measured under the new rules using the respective discount rate at the transition date and reversed through profit or loss in the fourth quarter of 2020 for employees covered by collective agreements and in the first quarter of 2021 for employees not covered by collective agreements.

In addition, in Germany there are various closed legacy commitments, which generally provide for old-age and disability benefits as well as benefits for surviving dependents in the form of life-long pensions. The commitments predominantly comprise the overall pension of the supplementary retirement pensions institution (Versorgungsanstalt der Deutschen Bundespost – VAP) that takes into account the statutory pension. Most of the plan members of these commitments are former employees with vested rights and retirees for whom the amount of benefits has already been determined. So the VAP overall pension scheme continues to apply to former employees who were already retired or who had left with vested claims in 1997.

To the extent that defined benefit plans in Germany grant annuities, the future adjustment for these pensions, except for insignificant exceptions, is bindingly defined in the existing benefit regulations. A change in the assumptions for the general pension trend in Germany therefore only has an immaterial impact on the defined benefit obligations.

As a change in life expectancy mainly impacts on the obligations from legacy pension commitments and, since 1997, commitments have been granted in the form of capital, the significance of the risk resulting from the change in life expectancy is expected to decline for the Group over subsequent years.

To cover pension obligations over the long term, Deutsche Telekom has transferred funds to a corporate CTA and a corporate pension fund.

The main pension plans in the **United States** comprise medical plans, life insurance (for pensioners and active employees), and pension commitments. The commitments have been entirely frozen and replaced by contribution plans (401(k) plans) within the meaning of IAS 19 for future vested rights.

The pension commitments in the United States mainly relate to two defined benefit plans: the Sprint Retirement Pension Plan (SRPP) and the Supplemental Executive Retirement Plan (SERP). The benefit amount under the SRPP is calculated primarily on the basis of 1.5 % of the beneficiary's total salary up to December 31, 2005. Furthermore, the additional SERP was set up for contributions above the tax exemption limits for the relevant eligible persons. Both plans have been frozen since December 31, 2005, such that plan participants have not been able to earn any more vested rights since that date.

The SRPP is financed through a pension fund within the framework of U.S. regulations. The level of financing of the SRPP is regularly reviewed, with the company paying additional contributions into the pension fund on top of the minimum contributions if necessary, depending on the financing status.

Under the medical plans, the Company grants allowances for medical care after retirement to top up statutory benefits. In addition to the existing pensioners, there is a small group of active employees who are near retirement, who can also access benefits from these plans.

Under the life insurance policies, the Company pays a benefit in the event of the death of a pensioner (basic coverage for pensioners prior to 2004) of 50 % of the final allowable income drawn (taking into account a cap for the maximum amount payable).

In addition, the Company grants defined benefit plans for individuals abroad. The majority of these benefits comprise benefits prescribed by law in the respective countries or benefits under the FAP (Financial Accumulation Plan – a capital account plan). Almost all of these individual commitments have likewise been frozen.

Under the company pension system in **Switzerland**, a defined benefit plan is in place that is financed by employer and employee contributions (within the meaning of IAS 19). This plan is granted by the legally independent T-Systems pension fund. As is often the case in Switzerland, the companies grant higher benefits than legally required. The Swiss Federal Law on Occupational Retirement, Surviving Dependents' and Disability Pension (Bundesgesetz über die berufliche Alters-, Hinterlassenen- und Invalidenvorsorge – BVG) sets out minimum requirements for the pay to be insured, the age-based contributions, and a minimum annuity factor for the obligatory portion of the accrued retirement assets to be annuitized. In addition, the Swiss Federal Council defines a minimum interest rate for the obligatory retirement assets (2023: 1.00 %, 2022: 1.00 %).

The foundation board (Stiftungsrat) presides over the Swiss pension fund. It ensures the day-to-day running of the pension fund and decides on fundamental aspects, such as the amount and the structure of the pension benefits and the asset investment strategy. The foundation board is equally composed of employer and employees' representatives.

Due to the minimum yield for the obligatory retirement assets, a risk exists for the plans in Switzerland that additional resources would have to be allocated to the pension fund if it were to be underfinanced. The pension fund offers the plan members the option to choose a life-long pension instead of a one-time payment. This option gives rise to longevity and investment risks, since at the time of retirement, assumptions must be made regarding life expectancy and return on assets. As of January 1, 2018, T-Systems Schweiz decided to apply the risk-sharing method when measuring its pension obligations. The measurement of obligations was changed such that employee participation in funding a possible deficit can be taken into account when measuring the employer's obligation. The general option for employee participation in funding a deficit is covered by Art. 28 of the pension regulations.

Development of plan assets at fair value

millions of €	2022	2021
Plan assets at fair value as of January 1	**7,937**	**6,698**
Changes attributable to business combinations/transfers of operation/acquisitions and disposals	0	0
Interest income on plan assets (calculated using the discount rate)	123	90
Amount by which the actual return exceeds (falls short of) the interest income on plan assets (remeasurement)	(1,779)	1,040
Contributions by employer	46	80
Contributions by plan participants	4	4
Benefits actually paid from plan assets	(155)	(105)
Settlements	0	0
Administration costs	0	0
Tax payments	0	0
Exchange rate fluctuations for plans in foreign currency	89	130
Plan assets at fair value as of December 31	**6,265**	**7,937**

Breakdown of plan assets at fair value by investment category

millions of €	Dec. 31, 2022	Of which: price in an active market	Of which: price without an active market	Dec. 31, 2021	Of which: price in an active market	Of which: price without an active market
Equity securities	3,829	3,829	0	5,346	5,346	0
Of which: shares in BT	1,510	1,510	0	2,414	2,414	0
Debt securities	1,954	1,954	0	2,030	2,030	0
Real estate	85	12	73	85	13	72
Derivatives	0	0	0	2	2	0
Investment funds	12	12	0	40	40	0
Asset-backed securities	0	0	0	0	0	0
Structured debt instruments	0	0	0	1	1	0
Cash and cash equivalents	119	119	0	64	64	0
Other	264	235	29	370	328	43
Plan assets at fair value	**6,265**	**6,162**	**102**	**7,937**	**7,823**	**115**

The investment policy and risk management is set in line with the risk and development characteristics of the pension obligations. On the basis of a systematic, integrated asset/liability management analysis, potential results from different investment portfolios, which can cover a large number of asset classes, are compared with the stochastically simulated development of the pension obligations, thereby explicitly considering the relative development of plan assets against the pension obligations. The investment strategy is mainly characterized by the objective of satisfying obligations from granted pension commitments on time by systematically setting up and professionally managing a suitable portfolio for the plan assets. It essentially aims to establish a widely diversified investment portfolio that generates a risk profile appropriate to the overall objective, by means of corresponding risk factors and diversification. The management of investments is subject to continuous monitoring to ensure active risk management. Cost-efficient investment management is effected by means of professional portfolio management involving external service providers.

At the reporting date, the plan assets at fair value included shares amounting to EUR 5 million (December 31, 2021: EUR 5 million) and bonds amounting to EUR 6 million (December 31, 2021: EUR 10 million) issued by Deutsche Telekom AG and its subsidiaries.

Development of the effect of the asset ceiling

millions of €

	2022	2021
Effect of asset ceiling as of January 1	**42**	**2**
Interest expense on asset ceiling (recognized in the income statement)	0	0
Changes in asset ceiling ((gains) losses recognized in equity)	8	38
Currency gain (loss)	3	2
Effect of asset ceiling as of December 31	**52**	**42**

Breakdown of defined benefit costs in the income statement[a]

millions of €

	Disclosure in income statement	2022	2021	2020
Current service cost	Personnel costs	225	234	256
Past service cost (due to plan amendments/curtailments)	Personnel costs	(3)	(87)	(223)
Settlements	Personnel costs	40	0	8
Service cost		**262**	**147**	**40**
Interest cost	Other financial income (expense)	205	179	183
Interest income on plan assets (calculated using the discount rate)	Other financial income (expense)	(123)	(90)	(98)
Interest expense on the effect of the asset ceiling	Other financial income (expense)	0	0	0
Net interest expense (income) on net defined benefit liability (asset)		**83**	**89**	**85**
Defined benefit cost		**344**	**236**	**126**
Administration costs actually incurred (paid from plan assets)	Personnel costs	0	0	0
Total amounts recognized in profit or loss		**344**	**236**	**126**

[a] As a result of the agreement concluded on July 13 2022, since the third quarter of 2022, the GD tower companies have been recognized in the consolidated financial statements as a discontinued operation. The consolidated income statement has been adjusted accordingly with retrospective effect.

Amounts recognized in the consolidated statement of comprehensive income

millions of €

	2022	2021	2020
Remeasurement ((gain) loss recognized in other comprehensive income in the financial year)	**(1,839)**	**(1,423)**	**1,358**
Of which: remeasurement due to a change in defined benefit obligations	(3,625)	(421)	663
Of which: remeasurement due to a change in plan assets	1,779	(1,040)	702
Of which: remeasurement due to changes in the effect of asset ceiling (according to IAS 19.64)	8	38	(7)

Total benefit payments expected

millions of €

	2023	2024	2025	2026	2027
Benefits paid from pension provisions	260	538	629	704	612
Benefits paid from plan assets	247	114	115	118	122
Total benefits expected	**508**	**652**	**745**	**823**	**734**

Since 2018, benefit payments for direct pension commitments have also been funded using CTA assets. Furthermore, Deutsche Telekom reserves the right to claim reimbursement from CTA assets in the following year, as required, for payments made directly by the employer. The last time this happened was in 2018.

For 2023, Deutsche Telekom does not plan any allocations to plan assets at fair value in Germany. Deutsche Telekom is planning an international allocation of at least EUR 40 million in 2023.

Defined contribution plans
The employer's contribution paid to the statutory pension scheme (Deutsche Rentenversicherung) in Germany in the 2022 financial year totaled EUR 0.4 billion (2021: EUR 0.4 billion, 2020: EUR 0.4 billion). Group-wide, EUR 157 million (2021: EUR 191 million, 2020: EUR 164 million) from current contributions for additional defined contribution plans was recognized in the consolidated income statement in 2022.

Civil-servant retirement arrangements at Deutsche Telekom
An expense of EUR 302 million was recognized in the 2022 financial year (2021: EUR 343 million, 2020: EUR 374 million) for the annual contribution to the Civil Service Pension Fund, which generally amounts to 33 % of the pensionable gross emoluments of active civil servants and the notional pensionable gross emoluments of civil servants on leave of absence. The present value of future payment obligations was EUR 0.9 billion as of the reporting date (December 31, 2021: EUR 1.1 billion, December 31, 2020: EUR 1.8 billion) and is shown under other financial obligations.

For further information, please refer to Note 41 "Other financial obligations."

16 Other provisions

millions of €

	Provisions for termination benefits	Other provisions for personnel costs	Provisions for restoration obligations	Provisions for litigation risks	Provisions for sales and procurement support	Miscellaneous other provisions	Total
At December 31, 2020	**302**	**4,382**	**2,778**	**317**	**557**	**697**	**9,033**
Of which: current	302	1,992	46	288	557	454	3,638
Transfer resulting from changes in accounting standards	0	0	0	0	0	0	0
Changes in the composition of the Group	0	0	29	27	0	7	64
Currency translation adjustments	4	93	126	7	18	8	257
Addition	38	2,830	452	143	491	266	4,220
Use	(113)	(1,830)	(265)	(54)	(483)	(181)	(2,926)
Reversal	(199)	(316)	(53)	(38)	(25)	(98)	(729)
Interest effect	0	(220)	(45)	2	0	0	(264)
Other changes	100	(224)	(32)	0	0	(36)	(192)
At December 31, 2021	**133**	**4,714**	**2,990**	**405**	**558**	**663**	**9,463**
Of which: current	47	2,260	236	381	558	420	3,903
Transfer resulting from changes in accounting standards	0	0	0	0	0	0	0
Changes in the composition of the Group	0	(1)	0	0	0	0	(1)
Currency translation adjustments	3	39	105	5	7	6	165
Addition	95	2,428	757	359	708	619	4,965
Use	(130)	(2,008)	(997)	(63)	(515)	(303)	(4,017)
Reversal	(3)	(215)	(153)	(123)	(10)	(72)	(577)
Interest effect	0	(825)	(166)	2	0	(1)	(990)
Other changes	0	(97)	(675)	(2)	0	(31)	(805)
At December 31, 2022	**97**	**4,034**	**1,861**	**582**	**749**	**881**	**8,204**
Of which: current	51	2,156	272	556	749	629	4,412

The carrying amount of current and non-current other provisions decreased by EUR 1.3 billion compared with December 31, 2021 to EUR 8.2 billion, due in particular to the significant rise in interest rate levels in the reporting year. By contrast, exchange rate effects, primarily from the translation from U.S. dollars into euros, increased the carrying amount. Other provisions developed as follows:

Provisions for termination benefits and other provisions for personnel costs include, among other components, provisions for staff restructuring. These have developed as follows in the 2022 financial year:

millions of €

	Jan. 1, 2022	Changes in the composition of the Group	Addition	Use	Reversal	Other changes	**Dec. 31, 2022**
Severance and voluntary redundancy models	133	0	95	(130)	(3)	3	97
Phased retirement	1,001	0	722	(516)	(2)	(201)	1,005
	1,134	**0**	**817**	**(646)**	**(5)**	**(198)**	**1,102**
Of which: current	315						341

Other provisions for personnel costs declined by EUR 0.7 billion, mainly due to a decrease of EUR 0.5 billion in the carrying amount of the provision recognized for the Civil Health Insurance Fund (Postbeamtenkrankenkasse – PBeaKK). This is primarily due to a significant increase in the interest rate level. In addition, the provisions for leave not taken and performance-related remuneration components declined. Other provisions for personnel costs also include provisions for deferred compensation and allowances, as well as for anniversary gifts.

The provisions for restoration obligations decreased by EUR 1.1 billion. These include the estimated costs for dismantling and removing assets, and restoring the sites on which they are located. The estimated costs are included in the costs of the relevant assets. The decrease is mainly attributable to reclassifications to liabilities directly associated with non-current assets and disposal groups held for sale, in particular as a result of the agreed sale of the GD tower companies. The decrease also resulted from the increase in the interest rate level.

By contrast, the provisions for litigation risks increased by a net amount of EUR 0.2 billion, mainly in connection with the proceedings pending in consequence of the cyberattack on T-Mobile US in August 2021. The provisions for litigation risks primarily relate to possible settlements attributable to pending lawsuits.

Provisions for sales and procurement support increased by EUR 0.2 billion. These provisions are recognized for dealer commissions and market development funds (advertising subsidies, and refunds).

Miscellaneous other provisions increased by EUR 0.2 billion. They include a large number of low-value individual items, such as provisions related to executory contracts, the disposal of businesses and site closures, in particular in prior financial years, as well as warranty and environmental damage provisions.

For further information on litigation risks from pending lawsuits, please refer to Note 39 "Contingencies."

In the measurement of the other provisions, Deutsche Telekom is exposed to interest rate fluctuations, which is why the effect of a possible change in the interest rate on the principal non-current provisions was simulated. The other, non-staff-related provisions are discounted using maturity-related discount rates specific to the respective currency area. To this end, Deutsche Telekom determines discount rates with maturities of up to 30 years. In 2022, the discount rates ranged from 2.69 to 3.93 % (2021: from 0.00 to 1.59 %) in the euro currency area and from 5.20 to 6.78 % (2021: from 1.14 to 4.14 %) in the U.S. dollar currency area. If the discount rate were increased by 50 basis points with no other change in the assumptions, the present value of the principal other non-current provisions would decrease by EUR 49 million (December 31, 2021: EUR 160 million). If the discount rate were decreased by 50 basis points with no other change in the assumptions, the present value of the principal other non-current provisions would increase by EUR 50 million (December 31, 2021: EUR 174 million).

17 Other liabilities

millions of €

	Dec. 31, 2022	**Of which: current**	Dec. 31, 2021	Of which: current
Early retirement	781	323	877	352
Deferred revenue	46	21	71	37
Liabilities from other taxes	1,915	1,915	1,877	1,877
Other deferred revenue	209	83	328	195
Liabilities from severance payments	51	50	59	58
Liabilities – publicly funded projects	1,739	397	1,579	473
Miscellaneous other liabilities	841	623	752	592
	5,582	**3,412**	**5,543**	**3,584**

The carrying amount of current and non-current other liabilities increased by EUR 0.1 billion to EUR 5.6 billion. Liabilities from early retirement arrangements for civil servants exist vis-à-vis the Civil Service Pension Fund and arise from payment obligations under agreements that had already been concluded. The obligations are payable in up to seven annual installments following retirement. “Liabilities – publicly funded projects” increased by EUR 0.2 billion, in particular due to existing build-out obligations in connection with grants still to be received from funding projects for the broadband build-out in the Germany operating segment.

18 Contract liabilities

The carrying amount of current and non-current contract liabilities increased year-on-year from EUR 2.2 billion to EUR 2.5 billion. These substantially include deferred revenues. The increase resulted from higher contract liabilities in the United States, Germany, and Europe operating segments. EUR 73 million of the increase in contract liabilities resulted from the marketing of a new business model in connection with the Equipment Installment Plan in the United States operating segment.

Revenue of EUR 2,794 million (2021: EUR 2,573 million) from contract liabilities that were still outstanding as of December 31, 2021 was realized in the reporting year. Of the total of contract liabilities, EUR 1,868 million (December 31, 2021: EUR 1,668 million) is due within one year.

For further information on the business transactions, please refer to the section “Changes in the composition of the Group and other transactions” under “Summary of accounting policies.”

19 Shareholders’ equity

Issued capital

As of December 31, 2022, the share capital of Deutsche Telekom AG totaled EUR 12,765 million. The share capital is divided into 4,986,458,596 no par value registered shares.

	2022		2021	
	thousands	%	thousands	%
Federal Republic of Germany – Berlin, Germany	689,601	13.8	689,601	13.8
KfW Bankengruppe – Frankfurt/Main, Germany	829,179	16.6	829,179	16.6
Free float	3,467,679	69.6	3,467,679	69.6
Of which: BlackRock, Inc. – Wilmington, DE, United States[a]	234,194		234,194	
Of which: SoftBank Group Corp. –Tokyo, Japan[b]	225,000		225,000	
	4,986,459	**100.0**	**4,986,459**	**100.0**

[a] According to the last notification from BlackRock published on September 22, 2017, the reporting threshold of 3 % of the voting rights was exceeded. The stake in Deutsche Telekom AG was thus 4.92 % of the voting rights on September 15, 2017. In connection with the capital increase carried out on September 28, 2021 against contribution in kind, the stake decreased to 4.70 % of the voting rights, on the assumption of an unchanged number of shares.

[b] According to the last notification from SoftBank published on October 7, 2021, the reporting threshold of 3 % of the voting rights was exceeded. The stake in Deutsche Telekom AG was thus 4.51 % of the voting rights on October 7, 2021.

Treasury shares. The amount of issued capital assigned to treasury shares was approximately EUR 35 million at December 31, 2022. This equates to 0.3 % of share capital. 13,757,255 treasury shares were held at December 31, 2022.

The shareholders’ meeting resolved on April 1, 2021 to authorize the Board of Management to purchase shares in the Company by March 31, 2026, with the amount of share capital accounted for by these shares totaling up to EUR 1,218,933,400.57, provided the shares to be purchased on the basis of this authorization in conjunction with the other shares of the Company that the Company has already purchased and still possesses or are to be assigned to it under § 71d and § 71e AktG do not at any time account for more than 10 % of the Company’s share capital. Moreover, the requirements under § 71 (2) sentences 2 and 3 AktG must be complied with. Shares shall not be purchased for the purpose of trading in treasury shares. This authorization may be exercised in full or in part. The purchase can be carried out in partial tranches spread over various purchase dates within the authorization period until the maximum purchase volume is reached. Dependent Group companies of Deutsche Telekom AG within the meaning of § 17 AktG or third parties acting for the account of Deutsche Telekom AG or for the account of dependent Group companies of Deutsche Telekom AG within the meaning of § 17 AktG are also entitled to purchase the shares. The shares are purchased through the stock exchange in adherence to the principle of equal treatment (§ 53a AktG). Shares can instead also be purchased by means of a public purchase or share exchange offer addressed to all shareholders, which, subject to a subsequently approved exclusion of the right to offer shares, must also comply with the principle of equal treatment.

The shares may be used for one or several of the purposes permitted by the authorization granted by the shareholders' meeting on April 1, 2021 under item 7 on the agenda. The shares may also be used for purposes involving an exclusion of subscription rights. In addition, they may be sold on the stock market or by way of an offer to all shareholders, or withdrawn. The shares may be used to fulfill the rights of Board of Management members to receive shares in Deutsche Telekom AG, which the Supervisory Board has granted to these members as part of the arrangements governing the remuneration of the Board of Management, on the basis of a decision by the Supervisory Board to this effect. Furthermore, under the authorization granted on April 1, 2021, the Board of Management is authorized to offer and/or grant shares to employees of Deutsche Telekom AG and of lower-tier affiliated companies as well as to managing board members of lower-tier affiliated companies; this also includes the authorization to offer or grant shares free of charge or on other special conditions.

Under the resolution of the shareholders' meeting on April 1, 2021, the Board of Management is also authorized to acquire the shares through the use of equity derivatives.

No treasury shares were acquired in the reporting period and in the prior year. Currently, the treasury shares for participants of the Share Matching Plan and of the employee share program Shares2You are issued from the pool of shares previously held in a trust deposit.

As part of the acquisition of VoiceStream Wireless Corp., Bellevue, and Powertel, Inc., Bellevue, in 2001, Deutsche Telekom AG issued new shares from authorized capital to a trustee, for the benefit of holders of warrants, options, and conversion rights, among others. These options or conversion rights expired in full in the 2013 financial year. As a result, the trustee no longer had any obligation to fulfill any claims in accordance with the purpose of the deposit. The trust relationship was terminated at the start of 2016 and the deposited shares were transferred free of charge to a custody account of Deutsche Telekom AG. On the basis of authorization by the shareholders' meetings on May 25, 2016 and April 1, 2021, the treasury shares acquired free of charge may be used for the same purposes as the treasury shares acquired for a consideration. In the reporting year, 708 thousand previously deposited shares were reallocated for issue to eligible participants of the Share Matching Plan (prior year: 3,462 thousand shares).

For matching shares from the Share Matching Plan and for free shares from the employee share program Shares2You, treasury shares are transferred free of charge to the custody accounts of employees of Deutsche Telekom AG. In cases where treasury shares are transferred to the custody accounts of employees of other Group companies, the costs have been transferred at fair value to the respective Group company since the 2016 financial year. Where treasury shares were transferred to the custody accounts of employees that were bought by way of the personal investment as part of the employee share program Shares2You, a conversion rate of EUR 18.78 per share was used. The conversion is determined using the lowest price at which a trade actually took place on an official German exchange on the date of conversion.

In all months of the reporting year, except for September, treasury shares (760 thousand in total) were reallocated and transferred to the custody accounts of eligible participants (prior year: 3,485 thousand treasury shares). As of December 31, 2022, disposals of treasury shares resulting from the transfers in the reporting period accounted for 0.02 %, or EUR 1,947 thousand, of share capital. Gains on disposal arising from transfers of treasury shares amounted to EUR 12,225 thousand. The transfers of treasury shares increased the capital reserve by EUR 10,278 thousand. In the reporting year, 367 thousand treasury shares with a fair value of EUR 6,737 thousand were billed to other Group companies.

Voting rights. Each share entitles the holder to one vote. These voting rights are restricted, however, in relation to treasury shares (at December 31, 2022: around 14 million in total).

Authorized capital and contingent capital. Authorized capital and contingent capital comprised the following components as of December 31, 2022:

	Amount millions of €	No par value shares thousands	Purpose
2022 Authorized capital	3,830	1,495,938	Capital increase against cash contribution/contribution in kind until April 6, 2027
2018 Contingent Capital	1,200	468,750	Servicing convertible bonds and/or bonds with warrants issued on or before May 16, 2023

Changes in the composition of the Group, transactions with owners, and capital increase.
The following table shows the changes in the composition of the Group, the development of transactions with owners, and the capital increase made against contribution in kind in the prior year:

millions of €

	2022			2021		
	Issued capital and reserves attributable to owners of the parent	Non-controlling interests	Total shareholders' equity	Issued capital and reserves attributable to owners of the parent	Non-controlling interests	Total shareholders' equity
Changes in the composition of the Group	**0**	**(583)**	**(583)**	**0**	**(181)**	**(181)**
Sale of T-Mobile Netherlands	0	(583)	(583)	0	0	0
Sale of Telekom Romania Communications	0	0	0	0	(170)	(170)
Other effects	0	0	0	0	(11)	(11)
Transactions with owners	**(2,569)**	**(3,428)**	**(5,997)**	**(179)**	**(48)**	**(227)**
T-Mobile US share buy-back/share-based payment	(978)	(1,994)	(2,972)	(157)	165	9
Increase of the stake in T-Mobile US	(1,493)	(1,178)	(2,672)	0	0	0
Magyar Telekom share buy-back	15	(53)	(38)	9	(38)	(29)
OTE share buy-back	(100)	(190)	(290)	(62)	(131)	(193)
Hrvatski Telekom share buy-back	(2)	(22)	(24)	(1)	(12)	(13)
T-Mobile Netherlands sale and leaseback	0	0	0	33	(33)	0
Other effects	(10)	9	(1)	0	0	0
Capital increase of Deutsche Telekom AG	**0**	**0**	**0**	**1,511**	**(2,358)**	**(847)**

Changes in the composition of the Group in connection with the sale of T-Mobile Netherlands reduced the carrying amount of shareholders' equity by EUR 0.6 billion. Transactions with owners decreased the carrying amount of shareholders' equity by EUR 6.0 billion, mainly in connection with the further acquisition of T-Mobile US shares to increase the stake and with the share buy-back program underway at T-Mobile US.

In connection with the agreement concluded on September 6, 2021 between Deutsche Telekom AG and SoftBank for the acquisition of around 45.4 million T-Mobile US shares, an increase in issued capital was entered in the commercial register and executed on September 28, 2021 by issuing 225 million no-par-value shares at the lowest issue price of EUR 2.56 per share against contribution in kind. Issued capital was increased by EUR 576 million in total. The number of Deutsche Telekom AG's outstanding shares increased as a result from 4,761 million to 4,986 million shares.

The non-cash capital increase was executed by SoftBank contributing 45.4 million T-Mobile US shares to Deutsche Telekom AG in return for the transfer of 225 million Deutsche Telekom AG shares from the 2017 authorized capital. Because T-Mobile US was already included in Deutsche Telekom's consolidated financial statements as a fully consolidated subsidiary, the increase in the stake merely led to a decrease in the non-controlling interests in consolidated shareholders' equity by EUR 2,358 million and to an increase in the share of equity held by the owners of the parent company by a net total of EUR 1,511 million.

In order to acquire the some 45.4 million T-Mobile US shares, on September 23, 2021, Deutsche Telekom AG exercised some of the stock options received from SoftBank in June 2020. On the exercise date, these stock options had a fair value of EUR 847 million. This amount was recognized directly in equity as part of the consideration (within the meaning of the IFRSs) paid to SoftBank, as a result of the derecognition of the exercised options (issued capital and reserves attributable to owners of the parent). The carrying amount of other financial assets decreased as a result.

Non-controlling interests: total other comprehensive income
Total other comprehensive income of non-controlling interests primarily comprises remeasurement effects as part of the acquisition of the OTE group totaling EUR 0.3 billion (December 31, 2021: EUR 0.3 billion), as well as currency translation effects of EUR 1.8 billion (December 31, 2021: EUR 0.3 billion), and remeasurement losses recognized directly in equity in connection with forward-payer swaps concluded for borrowings at T-Mobile US, which were terminated prematurely in April 2020.

Notes to the consolidated income statement

As a result of the agreement concluded on July 13 2022, since the third quarter of 2022, the GD tower companies have been recognized in the consolidated financial statements as a discontinued operation. The consolidated income statement has been adjusted accordingly with retrospective effect. Thus the contributions by the GD tower companies are no longer included in the individual items of the consolidated income statement. Instead, profit or loss after taxes is disclosed in aggregate form in the item "Profit/loss after taxes from discontinued operation."

For further information on the business transactions, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

20 Net revenue

Net revenue breaks down into the following revenue categories:

millions of €	2022	2021	2019[a]
Revenue from the rendering of services	**92,028**	**84,153**	**78,997**
Germany	20,770	20,304	19,887
United States	58,578	49,850	45,147
Europe	9,117	9,319	9,367
Systems Solutions	3,045	2,958	2,969
Group Development	420	1,635	1,545
Group Headquarters & Group Services	98	87	81
Revenue from the sale of goods and merchandise	**19,932**	**19,626**	**16,078**
Germany	2,588	2,431	2,216
United States	15,517	15,153	11,922
Europe	1,646	1,558	1,484
Systems Solutions	62	66	66
Group Development	118	417	389
Group Headquarters & Group Services	1	1	1
Revenue from the use of entity assets by others	**2,237**	**3,831**	**4,871**
Germany	588	694	815
United States	1,334	2,785	3,631
Europe	182	197	203
Systems Solutions	14	24	78
Group Development	0	2	5
Group Headquarters & Group Services	119	130	139
Net revenue[a]	**114,197**	**107,610**	**99,946**

[a] Revenue includes interest income of EUR 589 million in the reporting year, calculated using the effective interest method (2021: EUR 276 million, 2020: EUR 278 million). This income is primarily attributable to accrued interest on receivables in connection with handsets sold under installment plans in the United States operating segment.

In light of the IFRS Interpretations Committee's agenda decision published in May 2022 on transactions involving the commercial resale of software, Deutsche Telekom has implemented comprehensive changes to its accounting practices with respect to distinguishing between gross and net revenues, effective the start of the third quarter of 2022. Prior-year comparatives were adjusted retrospectively.

For further information on the aforementioned business transactions, please refer to the section "Changes in accounting policies and changes in the reporting structure" under "Summary of accounting policies."

Net revenue for the reporting year was EUR 114.2 billion, up EUR 6.6 billion on the prior-year level. The United States operating segment in particular contributed to the positive revenue trend with an increase, mainly due to exchange rate effects. The Germany operating segment also recorded a positive development on the back of increased mobile and fixed-network service revenues. Contrasting developments were recorded in the Europe operating segment (mainly due to the sale of the Romanian fixed-network business on September 30, 2021) and in the Group Development operating segment (mainly due to the sale of T-Mobile Netherlands on March 31, 2022).

For information on changes in net revenue, please refer to the section "Development of business in the Group" in the combined management report.

The total transaction price attributable to performance obligations that have (partially) not been fulfilled at the end of the reporting year (hereinafter: outstanding transaction price) amounts to EUR 25.6 billion (2021: EUR 20.0 billion).

The portion of the outstanding transaction price attributable to performance obligations that have not been fulfilled or not yet completely fulfilled at the end of the reporting year is generally recognized as revenue over the remaining term of the service contracts concluded. Since most service contracts – unless they can be canceled at any time – have a minimum contract term of 24 months, an average remaining term of approximately 12 months can be assumed, provided the course of business in the mass business remains virtually unchanged. The disclosures only refer to transactions within the scope of IFRS 15, i.e., they do not include portions of the transaction price being allocated to performance obligations outside the scope of the standard, e.g., leases.

Deutsche Telekom generally makes use of the practical expedients in IFRS 15, according to which outstanding performance obligations under contracts with an expected original term of no more than one year and revenues recognized in accordance with the billed amounts are exempt from the disclosure requirement. Individual subsidiaries deviate from this general approach and have not made use of these practical expedients for groups of contracts with similar characteristics.

Service concession arrangements

Satellic NV, Machelen, Belgium, is a fully consolidated subsidiary of Deutsche Telekom and on July 25, 2014 signed a contractual arrangement with Viapass, the public agency responsible for toll collection in Belgium, for the set-up, operation, and financing of an electronic toll collection system. After Viapass accepted the system on March 30, 2016, the set-up phase was completed on March 31, 2016. The subsequent operation phase has a duration of 12 years, with the additional option for Viapass to extend the term three times by 1 year. Satellic has no entitlement to the toll revenue collected but receives contractually agreed fees for setting up and operating the system. Viapass is authorized to terminate the arrangement giving notice of six months with payment of reasonable compensation. In the event of regular or premature termination of the agreement, Satellic has an obligation to hand over to Viapass, on request, material assets for the operation of the toll collection system that have not yet passed to the ownership of Viapass; in such an event, however, the software platform for toll collection would not be handed over to Viapass. The agreement was classified as a service concession arrangement within the meaning of IFRIC 12. Since the start of the operation phase on April 1, 2016, the separate fees for operation and maintenance services have been recognized as revenue in the respective periods, which totaled EUR 85 million in the reporting year (2021: EUR 75 million, 2020: EUR 79 million).

21 Other operating income

millions of €

	2022	2021	2020
Income from the reversal of impairment losses on non-current assets	2	1	1,661
Income from the disposal of non-current assets	448	115	125
Income from reimbursements	136	138	150
Income from insurance compensation	369	86	73
Income from ancillary services	25	21	19
Miscellaneous other operating income	3,673	938	845
Of which: gains resulting from deconsolidations and from the sale of stakes accounted for using the equity method	2,732	214	10
	4,653	**1,300**	**2,873**

Income from the disposal of non-current assets of EUR 0.2 billion resulted from the further optimization of the real estate portfolio in the Group Headquarters & Group Services segment and of EUR 0.1 billion from the sale of IP addresses related to the former Sprint's fiber-optic-based wireline network in the United States. Income from insurance compensation of EUR 0.2 billion resulted from refunds from insurance companies in connection with damage sustained in the catastrophic flooding in North Rhine-Westphalia and Rhineland-Palatinate in July 2021 and of EUR 0.1 billion from refunds from insurance companies for expenses arising in connection with the cyberattack on T-Mobile US in August 2021. Gains resulting from deconsolidations and from the sale of stakes accounted for using the equity method of EUR 1.7 billion were attributable to the loss of control over the GlasfaserPlus entities. The sale of T-Mobile Netherlands resulted in a gain on deconsolidation of EUR 0.9 billion, which was determined taking the repayment of internal shareholder loans and the net assets on the date of deconsolidation into account. The loss of control over DIV II gave rise to a gain on deconsolidation of EUR 0.1 billion. In the prior year, gains resulting from deconsolidations and from the sale of stakes accounted for using the equity method were attributable to the sale of the Dutch cell tower company T-Mobile Infra to DIV II and its subsequent contribution into Cellnex NL in connection with the combination of the cell tower business in the Netherlands. Other operating income also includes a payment of EUR 0.2 billion in connection with the settlement of a series of patent disputes between T-Mobile US and a competitor as well as a large number of individual items at marginal amounts.

For further information on the aforementioned business transactions, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

22 Changes in inventories

Changes in inventories comprise both volume- and value-based increases and decreases in inventories of finished goods and work in process. There were no significant changes in inventories in the reporting year or in prior years.

23 Own capitalized costs

Own capitalized costs amounted to EUR 2.9 billion in the reporting year (2021: EUR 2.8 billion, 2020: EUR 2.8 billion) and mainly relate to investments in network build-out and the development of platforms for cell sites.

24 Goods and services purchased

millions of €	2022	2021	2020
Expenses for raw materials and supplies	2,400	2,188	1,945
Expenses for merchandise	24,994	24,026	19,452
Expenses for services purchased	25,531	23,204	22,973
	52,926	**49,418**	**44,370**

25 Average number of employees and personnel costs

		2022	2021	2020
Group (total)		**211,236**	**220,840**	**223,539**
Of which: discontinued operation		760	771	741
Germany		83,406	87,276	91,512
International		127,830	133,564	132,027
Non-civil servants		202,346	210,791	212,148
Civil servants (domestic, active service relationship)		8,891	10,049	11,391
Trainees and students on cooperative degree courses		5,251	5,375	4,905
Personnel costs	millions of €	**19,371**	**18,394**	**18,792**
Of which: wages and salaries	millions of €	16,052	15,159	15,876
Of which: social security contributions and pension benefit costs	millions of €	3,319	3,235	2,916

The average headcount decreased by 4.3 % compared with the prior year. It decreased in Germany by 4.4 % due in particular to efficiency enhancement measures and the take-up of socially responsible instruments in connection with staff restructuring in the Germany and Systems Solutions operating segments, and in the Group Headquarters & Group Services segment. The average headcount outside of Germany also decreased by 4.3 %, driven mainly by the sale of Telekom Romania Communications as of September 30, 2021 and of T-Mobile Netherlands as of March 31, 2022. In Europe, we continued to drive forward the socially responsible staff restructuring. Increased recruitment in the Systems Solutions operating segment had an offsetting effect. In the United States, the headcount was reduced as a result of targeted rationalization to cut costs, in part as a consequence of the business combination with Sprint.

Personnel costs increased by EUR 1.0 billion year-on-year to EUR 19.4 billion. The increase is in particular attributable to the United States operating segment, with EUR 0.9 billion relating to exchange rate effects and with EUR 0.3 billion relating to higher integration costs as a result of the business combination with Sprint and other restructuring expenses. Due to the sale of T-Mobile Netherlands as of March 31, 2022, personnel costs decreased by EUR 0.1 billion in the Group Development operating segment. In the Germany, Europe and the United States operating segments and in the Group Headquarters & Group Services segment, lower headcounts resulted in a reduction in personnel costs. The agreed salary increases from the collective agreements concluded in 2022 in Germany and abroad had an offsetting effect. Restructuring expenses remained unchanged, which had a negative effect of EUR 0.1 billion as compared with the prior year, when the reversal of a provision for personnel costs had a positive impact.

26 Other operating expenses

millions of €

	2022	2021	2020
Impairment losses on financial assets	1,235	637	862
Gains (losses) from the write-off of financial assets measured at amortized cost	24	122	188
Other	5,124	3,502	3,443
Of which: legal and audit fees	784	615	509
Of which: losses from asset disposals	356	267	488
Of which: income (losses) from the measurement of factoring receivables	2	4	6
Of which: other taxes	584	496	452
Of which: cash and guarantee transaction costs	622	547	490
Of which: insurance expenses	169	138	117
Of which: miscellaneous other operating expenses	2,606	1,434	1,382
Of which: losses resulting from deconsolidations and from the sale of stakes accounted for using the equity method	0	70	0
	6,383	**4,261**	**4,493**

The year-on-year increase in impairment losses on financial assets was mainly attributable to allowances of customer receivables primarily in the United States operating segment. These resulted from higher receivables and potential future macroeconomic effects. Expenses for legal and audit fees included, among other factors, expenses in connection with the proceedings brought in consequence of the cyberattack on T-Mobile US in August 2021. Miscellaneous other operating expenses included expenses of EUR 0.7 billion in connection with the payment obligations entered into under the agreement to sell the wireline business in the United States. This item also includes expenses of EUR 0.5 billion for data storage in data centers, in cloud applications or other IT services, and of EUR 0.3 billion for regulatory duties in the United States. It also includes other administrative expenses and fees totaling EUR 0.1 billion.

27 Depreciation, amortization and impairment losses

The following table provides a breakdown of depreciation, amortization and impairment losses:

millions of €

	2022	2021	2020
Amortization and impairment of intangible assets	**6,931**	**6,621**	**6,997**
Of which: impairment losses	180	155	525
Of which: impairment losses on mobile licenses	19	4	152
Of which: amortization of mobile licenses	559	606	1,140
Depreciation and impairment of property, plant and equipment	**13,603**	**14,498**	**13,567**
Of which: impairment losses	668	92	210
Depreciation and impairment of right-of-use assets	**7,102**	**5,972**	**4,971**
Of which: impairment losses	308	37	63
	27,635	**27,091**	**25,534**

Impairment losses break down as follows:

millions of €

	2022	2021	2020
Intangible assets	**180**	**155**	**525**
Of which: in connection with the ad hoc impairment tests of assets of the fiber-optic-based fixed network in the United States	27	0	0
Of which: in connection with the ad hoc impairment test in the Systems Solutions cash-generating unit[a]	119	140	343
Of which: in connection with the ad hoc impairment test in the Romania cash-generating unit	32	0	126
Of which: goodwill from the year-end impairment test	0	0	26
Property, plant and equipment	**668**	**92**	**210**
Of which: in connection with the ad hoc impairment tests of assets of the fiber-optic-based fixed network in the United States	528	0	0
Of which: in connection with the ad hoc impairment test in the Systems Solutions cash-generating unit	24	60	127
Of which: in connection with the ad hoc impairment test in the Romania cash-generating unit	85	0	34
Right-of-use assets	**308**	**37**	**63**
Of which: in connection with the ad hoc impairment tests of assets of the fiber-optic-based fixed network in the United States	272	0	0
	1,156	**284**	**798**

[a] Of the impairment losses, EUR 33 million (2021: EUR 21 million; 2020: EUR 44 million) relates to intangible assets in the Group Headquarters & Group Services segment that are subject to use by the Systems Solutions operating segment and are allocated to the Systems Solutions cash-generating unit for the purposes of impairment testing.

Depreciation, amortization and impairment losses on intangible assets, property, plant and equipment, and right-of-use assets increased by EUR 0.5 billion year-on-year to EUR 27.6 billion.

Depreciation and amortization decreased by EUR 0.3 billion to EUR 26.5 billion. In the Group Development operating segment, depreciation and amortization were down on the prior-year level in connection with the fact that T-Mobile Netherlands had been held for sale until it was sold and accordingly the related depreciation and amortization had been suspended, and in connection with its subsequent sale. Depreciation on property, plant and equipment in the United States operating segment declined due to the ongoing strategic withdrawal from the terminal equipment lease business. By contrast, in the United States operating segment, a reduction in the useful life of leased network technology for cell sites following the business combination of T-Mobile US and Sprint increased depreciation of the corresponding right-of-use assets by EUR 1.6 billion. The agreement concluded between T-Mobile US and Crown Castle on a modification of existing arrangements, mainly concerning the lease of Crown Castle's cell sites, also had an increasing effect on depreciation and amortization.

Impairment losses, by contrast, increased by EUR 0.9 billion to EUR 1.2 billion, of which EUR 0.9 billion related to the United States operating segment, mainly in connection with assets of the former Sprint's fiber-optic-based fixed network. These impairment losses arose in part in connection with the sale of the business agreed in September 2022. Further impairment losses of EUR 0.1 billion related to the Systems Solutions operating segment and the Group Headquarters & Group Services segment. These related to follow-up investments in connection with assets previously impaired in the 2020 and 2021 financial years. Furthermore, despite the business outlook remaining positive, the substantial increase in the cost of capital in the reporting year prompted further impairment losses to be recognized on non-current assets at the end of 2022. In addition, impairment losses of EUR 0.1 billion related to the Europe operating segment in connection with non-current assets in the Romanian fixed-network business. The Romanian national company continues to operate in the structurally challenging and highly competitive Romanian market at prices that are low compared with other countries. In addition, high energy prices and sharp rises in interest rates had a negative impact on the enterprise value. The impairment losses recognized in the prior year amounted to EUR 0.3 billion and related primarily to the Systems Solutions operating segment and the Group Headquarters & Group Services segment.

For further information, please refer to Notes 6 "Intangible assets," 7 "Property, plant and equipment," and 8 "Right-of-use assets – lessee relationships."

28 Profit/loss from operations

Profit from operations (EBIT) in the Group increased from EUR 12.6 billion to EUR 15.4 billion, up EUR 2.8 billion against the prior year.

For information on the development of EBIT, please refer to the section "Development of business in the Group" in the combined management report.

29 Finance costs

millions of €	2022	2021	2020
Interest income	387	611	589
Interest expense	(5,679)	(5,027)	(4,617)
	(5,292)	**(4,416)**	**(4,029)**
Of which: from leases	(1,515)	(1,130)	(974)
Of which: from financial instruments relating to measurement categories in accordance with IFRS 9			
Debt instruments measured at amortized cost	42	176	190
Debt instruments measured at fair value through other comprehensive income	0	0	0
Debt instruments measured at fair value through profit or loss	61	11	16
Financial liabilities measured at amortized cost[a]	(3,839)	(3,453)	(3,235)

[a] Interest expense calculated according to the effective interest method and adjusted for accrued interest from derivatives recognized in the reporting year that were used as hedging instruments against interest rate-based changes in the fair values of financial liabilities measured at amortized cost in the reporting year for hedge accounting in accordance with IFRS 9 (2022: interest income of EUR 273 million and interest expense of EUR 284 million; 2021: interest income of EUR 417 million and interest expense of EUR 284 million; 2020: interest income of EUR 377 million and interest expense of EUR 101 million).

Finance costs increased from EUR 4.4 billion to EUR 5.3 billion, primarily due to the modification of the arrangements between T-Mobile US and Crown Castle, which resulted in an increase in the carrying amounts of lease liabilities. Furthermore, the interest capitalized as part of acquisition costs decreased, especially in the United States operating segment. In the Group Headquarters & Group Services segment, the interest expense for variable-interest financial liabilities increased as a result of the rise in interest rates in the reporting year. In connection with the premature termination of forward-payer swaps by T-Mobile US at the start of April 2020 and the associated losses recorded directly in equity, reclassifications to profit or loss of EUR 0.2 billion were made (2021: EUR 0.2 billion).

Interest of EUR 125 million (2021: EUR 211 million, 2020: EUR 334 million) was capitalized as part of acquisition costs in the reporting year. The amount was calculated on the basis of an interest rate in the average range between 3.4 % at the start of the year and 3.4 % at the end of the year (2021: between 3.6 and 3.4 %, 2020: between 3.2 and 3.6 %) applied across the Group.

Interest payments (including capitalized interest) of EUR 6.9 billion (2021: EUR 6.4 billion, 2020: EUR 7.6 billion) were made in the reporting year.

Accrued interest payments from derivatives (interest rate swaps) that were designated as hedging instruments in a fair value hedge in accordance with IFRS 9 are netted per swap contract and recognized as interest income or interest expense depending on the net amount. Finance costs are assigned to the measurement categories on the basis of the hedged item. Only financial liabilities were hedged in the reporting period.

30 Share of profit/loss of associates and joint ventures accounted for using the equity method

millions of €	2022	2021	2020
Share of profit (loss) of joint ventures	(540)	(34)	(16)
Share of profit (loss) of associates	15	(68)	6
	(524)	**(102)**	**(11)**

The share of profit/loss of associates and joint ventures included in the consolidated financial statements using the equity method decreased by EUR 0.4 billion compared with the prior year to EUR -0.5 billion. The main factor in this was an impairment loss of EUR 517 million recognized in the reporting year on the carrying amount of the stake in GlasfaserPlus. The impairment loss was triggered by the current macroeconomic developments and the associated sharp rise in interest rates. The recoverable amount was determined based on Level 3 input parameters and confirmed by an external multiple evaluation. A discount rate of 5.37 % was used. The prior-year figure included an impairment loss of EUR 58 million recognized on the carrying amount of the stake in Stratospheric Platforms Ltd.

For further information, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies," and Note 10 "Investments accounted for using the equity method."

31 Other financial income/expense

millions of €	2022	2021	2020
Income from investments (without share of profit (loss) of associates and joint ventures accounted for using the equity method)	5	4	12
Gains (losses) from financial instruments	784	(593)	628
Interest component from measurement of provisions and liabilities	590	167	(509)
Impairment losses on other financial assets	0	(13)	0
Gains (losses) from the write-off of other financial assets measured at amortized cost	0	0	0
	1,379	**(435)**	**131**

Other financial income/expense increased by EUR 1.8 billion year-on-year to income of EUR 1.4 billion, with gains/losses from financial instruments increasing by EUR 1.4 billion to a gain of EUR 0.8 billion. This was attributable in particular to positive measurement effects from a forward transaction to hedge the price of acquiring T-Mobile US shares in the future and positive measurement effects from the amortization and subsequent measurement of the stock options received from SoftBank in June 2020 to buy shares in T-Mobile US. Less pronounced negative measurement effects from derivatives of T-Mobile US embedded in bonds compared with the prior-year period also contributed to this. The interest component from the measurement of provisions and liabilities increased by EUR 0.4 billion to EUR 0.6 billion. This increase was mainly attributable to the subsequent measurement using actuarial principles of the present value of the provision recognized for the Civil Service Health Insurance Fund.

EUR -226 million (2021: EUR -282 million, 2020: EUR 341 million) of gains/losses from financial instruments related to currency translation effects, including gains/losses from derivatives used as hedges in foreign-currency hedge accounting, and EUR 1,010 million (2021: EUR -310 million, 2020: EUR 287 million) to gains/losses from other derivatives as well as measurements of equity investments.

As a rule, all income/expense components including interest income and expense from financial instruments classified as at fair value through profit or loss in accordance with IFRS 9 are reported under gains/losses from financial instruments.

For further information on financial instruments, please refer to Note 42 "Financial instruments and risk management."

32 Income taxes

Income taxes in the consolidated income statement

A tax expense of EUR 1.9 billion was recorded in the 2022 financial year. The tax amount reflects the shares of the different countries in profit before income taxes and their respective national tax rates. However, the effective tax rate was reduced by the realization of tax-free income from the sale of T-Mobile Netherlands and the shares in GlasfaserPlus. Taxes were furthermore reduced by deferred tax effects in the United States operating segment. In the prior-year period, a tax expense of EUR 1.7 billion had been recorded despite substantially lower profit/loss before income taxes.

The following table provides a breakdown of income taxes in Germany and internationally:

millions of €	2022	2021	2020
Current taxes	**1,035**	**908**	**854**
Germany	603	219	321
International	432	690	533
Deferred taxes	**902**	**823**	**1,004**
Germany	(11)	581	144
International	913	242	860
	1,937	**1,732**	**1,858**

Deutsche Telekom's combined income tax rate for 2022 amounts to 31.4 % (2021: 31.4 %, 2020: 31.4 %). It consists of corporate income tax at a rate of 15.0 %, the solidarity surcharge of 5.5 % on corporate income tax, and trade tax at an average multiplier of 445 % (2021: 445 %, 2020: 445 %).

Reconciliation of the effective tax rate. Income taxes of EUR -1,937 million (as expense) in the reporting year (2021: EUR -1,732 million (as expense), 2020: EUR -1,858 million (as expense)) are derived as follows from the expected income tax expense/benefit that would have arisen had the statutory income tax rate of the parent company (combined income tax rate) been applied to profit/loss before income taxes:

millions of €		2022	2021	2020
Profit (loss) before income taxes		**10,977**	**7,628**	**8,458**
Expected income tax expense (benefit) (Income tax rate applicable to Deutsche Telekom AG: 2022: 31.4 %, 2021: 31.4 %, 2020: 31.4 %)		3,447	2,395	2,656
Adjustments to expected tax expense (benefit)				
Effect of changes in statutory tax rates		(16)	(39)	(139)
Tax effects from prior years		(157)	(41)	38
Tax effects from other income taxes		37	(178)	297
Non-taxable income		(829)	(106)	(32)
Tax effects from equity investments		150	27	8
Non-deductible expenses		77	153	192
Permanent differences		(309)	73	(458)
Goodwill impairment losses		1	0	(6)
Tax effects from loss carryforwards		63	(36)	1
Tax effects from additions to and reductions of local taxes		49	53	59
Adjustment of taxes to different foreign tax rates		(575)	(570)	(755)
Other tax effects		0	1	(3)
Income tax expense (benefit) according to the consolidated income statement		**1,937**	**1,732**	**1,858**
Effective income tax rate	%	18	23	22

Current income taxes in the consolidated income statement

The following table provides a breakdown of current income taxes:

millions of €	2022	2021	2020
Current income taxes	**1,035**	**908**	**854**
Of which: current tax expense	1,093	914	659
Of which: prior-period tax expense	(58)	(5)	195

Deferred taxes in the consolidated income statement

Deferred taxes developed as follows:

millions of €	2022	2021	2020
Deferred tax expense (benefit)	**902**	**823**	**1,004**
Of which: from temporary differences	3,030	1,143	2,818
Of which: from loss carryforwards	(2,161)	(337)	(1,891)
Of which: from tax credits	33	17	77

Income taxes in the consolidated statement of financial position

Current income taxes in the consolidated statement of financial position

millions of €	Dec. 31, 2022	Dec. 31, 2021
Recoverable taxes	213	321
Tax liabilities	(801)	(549)
Current taxes recognized in other comprehensive income:		
Hedging instruments	(252)	(252)

Deferred taxes in the consolidated statement of financial position

millions of €	Dec. 31, 2022	Dec. 31, 2021
Deferred tax assets	8,316	7,906
Deferred tax liabilities	(22,800)	(19,809)
	(14,484)	**(11,903)**
Of which: recognized in other comprehensive income:		
Gains (losses) from the remeasurement of defined benefit plans	491	1,328
Revaluation surplus	142	120
Hedging instruments	272	502
Recognized in other comprehensive income before non-controlling interests	**905**	**1,950**
Non-controlling interests	(190)	(250)
	715	**1,700**

Development of deferred taxes

millions of €	Dec. 31, 2022	Dec. 31, 2021
Deferred taxes recognized in the statement of financial position	(14,484)	(11,903)
Difference to prior year	(2,581)	(2,615)
Of which: recognized in income statement	(936)	(838)
Of which: recognized in other comprehensive income	(1,039)	(474)
Of which: recognized in capital reserves	22	(121)
Of which: acquisitions (disposals) (including assets and disposal groups held for sale)	48	(325)
Of which: currency differences	(676)	(857)

Development of deferred taxes on loss carryforwards

millions of €

	Dec. 31, 2022	Dec. 31, 2021
Deferred taxes on loss carryforwards before allowances	6,570	4,190
Difference to prior year	2,380	82
Of which: recognition (derecognition)	2,268	(153)
Of which: acquisitions (disposals) (including assets and disposal groups held for sale)	12	(42)
Of which: currency differences	100	277

Deferred taxes relate to the following key items in the statement of financial position, loss carryforwards, and tax credits:

millions of €

	Dec. 31, 2022		Dec. 31, 2021	
	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
Current assets	**2,541**	**(1,467)**	**2,199**	**(1,438)**
Trade receivables	1,577	(51)	1,362	(235)
Inventories	173	0	89	0
Other assets	782	(428)	742	(391)
Contract assets	8	(988)	6	(812)
Non-current assets	**3,654**	**(38,396)**	**3,388**	**(31,692)**
Intangible assets	613	(21,506)	392	(20,690)
Property, plant and equipment	907	(6,599)	1,338	(1,991)
Other financial assets	2,132	(9,872)	1,656	(8,634)
Capitalized contract costs	2	(418)	2	(377)
Current liabilities	**2,234**	**(1,435)**	**2,495**	**(1,355)**
Financial liabilities	568	(138)	603	(105)
Trade and other payables	115	(18)	167	(99)
Other provisions	557	(200)	371	(115)
Other liabilities	906	(961)	1,097	(958)
Contract liabilities	88	(118)	257	(78)
Non-current liabilities	**14,845**	**(3,762)**	**13,328**	**(3,169)**
Financial liabilities	3,254	(1,510)	2,946	(1,086)
Provisions for pensions and other employee benefits	1,642	(1,798)	1,919	(1,758)
Other provisions	855	(253)	1,089	(251)
Other liabilities	8,998	(125)	7,269	(20)
Contract liabilities	96	(76)	105	(54)
Retained earnings	**8**	**(181)**	**0**	**0**
Tax credits	**337**	**0**	**334**	**0**
Loss carryforwards	**6,026**	**0**	**3,741**	**0**
Interest and other carryforwards	**1,111**	**0**	**265**	**0**
Total	**30,756**	**(45,240)**	**25,750**	**(37,654)**
Of which: non-current	26,517	(42,261)	21,709	(34,807)
Netting	(22,440)	22,440	(17,844)	17,844
Recognition	**8,316**	**(22,800)**	**7,906**	**(19,809)**

The loss carryforwards amount to:

millions of €	Dec. 31, 2022	Dec. 31, 2021
Loss carryforwards for corporate income tax purposes	**25,346**	**15,312**
Expiry within		
1 year	0	0
2 years	5	3
3 years	2	3
4 years	4	7
5 years	21	3
After 5 years	1,479	1,449
Unlimited carryforward period	23,835	13,847

Loss carryforwards and temporary differences for which no deferred taxes were recorded amount to:

millions of €	Dec. 31, 2022	Dec. 31, 2021
Loss carryforwards for corporate income tax purposes	**1,722**	**1,769**
Expiry within		
1 year	0	0
2 years	5	2
3 years	2	0
4 years	4	5
5 years	18	2
After 5 years	923	1,018
Unlimited carryforward period	770	742
Temporary differences in corporate income tax	**492**	**429**

In addition, no deferred taxes are recognized on trade tax loss carryforwards of EUR 145 million (December 31, 2021: EUR 117 million) and on temporary differences for trade tax purposes in the amount of EUR 3 million (December 31, 2021: EUR 6 million). Furthermore, apart from corporate income tax loss carryforwards, no deferred taxes amounting to EUR 140 million (December 31, 2021: EUR 163 million) were recognized for other foreign income tax loss carryforwards and, apart from temporary differences for trade tax purposes, no deferred taxes amounting to EUR 5 million (December 31, 2021: EUR 7 million) were recognized for other foreign income taxes.

No deferred tax assets were recognized on the aforementioned tax loss carryforwards and temporary differences as it is not probable that taxable profit will be available in the foreseeable future against which these tax loss carryforwards can be utilized.

A positive tax effect in the amount of EUR 3 million (2021: EUR 3 million, 2020: EUR 3 million) attributable to the utilization of tax loss carryforwards on which deferred tax assets had not yet been recognized was recorded in the reporting year.

The write-up of deferred tax assets resulted in a positive effect of EUR 47 million in the reporting year (2021: EUR 427 million).

The increase in tax loss carryforwards is attributable to the utilization of accelerated tax depreciation allowances in the United States. The increase in deferred tax assets to be recognized on these additional tax loss carryforwards is offset by a corresponding increase in deferred tax liabilities recognized for temporary differences in property, plant and equipment at T-Mobile US.

Deferred tax assets from the business combination of T-Mobile US with Sprint were recognized for the first time. Their recognition was mainly attributable to legal entities restructuring, which resulted in the reutilization of loss carryforwards acquired in particular.

No deferred tax liabilities were recognized on temporary differences in connection with equity interests in subsidiaries amounting to EUR 543 million (December 31, 2021: EUR 721 million) as it is unlikely that these differences will be recognized in the near future.

Disclosure of tax effects relating to each component of other comprehensive income

millions of €

	2022			2021			2020		
	Before tax amount	Tax (expense) benefit	Net of tax amount	Before tax amount	Tax (expense) benefit	Net of tax amount	Before tax amount	Tax (expense) benefit	Net of tax amount
Items not subsequently reclassified to profit or loss (not recycled)									
Gains (losses) from the remeasurement of defined benefit plans	1,841	(839)	1,002	1,426	(256)	1,170	(1,358)	142	(1,216)
Gains (losses) from the remeasurement of equity instruments	(46)	5	(41)	112	(5)	107	62	0	62
Share of profit (loss) of investments accounted for using the equity method	0	0	0	0	0	0	0	0	0
	1,796	**(835)**	**961**	**1,538**	**(261)**	**1,278**	**(1,296)**	**142**	**(1,154)**
Items subsequently reclassified to profit or loss (recycled), if certain reasons are given									
Exchange differences on translating foreign operations									
Recognition of other comprehensive income in income statement	0	0	0	61	0	61	0	0	0
Change in other comprehensive income (not recognized in income statement)	4,071	0	4,071	5,142	0	5,142	(6,578)	0	(6,578)
Gains (losses) from the remeasurement of debt instruments									
Recognition of other comprehensive income in income statement	1,037	3	1,040	417	(36)	381	491	(26)	465
Change in other comprehensive income (not recognized in income statement)	(1,060)	21	(1,039)	(497)	64	(433)	(481)	30	(451)
Gains (losses) from hedging instruments (IAS 39 until December 2017, designated risk component)									
Recognition of other comprehensive income in income statement	123	(28)	95	17	3	20	431	(130)	301
Change in other comprehensive income (not recognized in income statement)	762	(242)	520	296	(92)	204	(1,446)	400	(1,046)
Gains (losses) from hedging instruments (IFRS 9 from January 2018, hedging costs)									
Recognition of other comprehensive income in income statement	1	0	1	2	(1)	1	2	(1)	1
Change in other comprehensive income (not recognized in income statement)	(51)	16	(35)	60	(19)	41	(30)	10	(20)
Share of profit (loss) of investments accounted for using the equity method									
Recognition of other comprehensive income in income statement	0	0	0	0	0	0	0	0	0
Change in other comprehensive income (not recognized in income statement)	0	0	0	0	0	0	1	0	1
	4,884	**(231)**	**4,654**	**5,498**	**(81)**	**5,417**	**(7,610)**	**283**	**(7,327)**
Other comprehensive income	**6,680**	**(1,065)**	**5,615**	**7,036**	**(342)**	**6,694**	**(8,906)**	**425**	**(8,481)**
Profit (loss)			9,482			6,103			6,747
Total comprehensive income			**15,097**			**12,798**			**(1,734)**

33 Profit/loss after taxes from discontinued operation

The following table provides a breakdown of profit/loss after taxes from the discontinued operation:

millions of €	2022	2021	2020
Net revenue	**216**	**201**	**192**
Other operating income	20	(1)	6
Changes in inventories	9	1	0
Own capitalized costs	25	27	22
Goods and services purchased	756	718	556
Personnel costs	(75)	(69)	(61)
Other operating expenses	(14)	(10)	17
EBITDA	**937**	**868**	**733**
Depreciation, amortization and impairment losses	(192)	(391)	(295)
Profit (loss) from operations (EBIT)	**745**	**477**	**438**
Finance costs	(42)	(185)	(196)
Share of profit (loss) of associates and joint ventures accounted for using the equity method	2	0	(2)
Other financial income (expense)	21	(2)	(22)
Profit (loss) from financial activities	**(18)**	**(186)**	**(220)**
Profit (loss) before income taxes	**727**	**290**	**218**
Income taxes	(284)	(83)	(72)
Profit (loss) after taxes from discontinued operation	**443**	**207**	**147**

Value contributions by GD tower companies are presented separately in the income statement of the discontinued operation. Since Deutsche Telekom will continue to use the sold, passive network infrastructure after consummation of the transaction, the intragroup elimination of income and expenses between the discontinued operation and continuing operations are disclosed at the level of the discontinued operation. So, for example, goods and services purchased include eliminations of intragroup onward charging of purchased services of GD tower companies mainly to Telekom Deutschland GmbH. In this way, the net effect is that internal cost allocations are no longer included in Deutsche Telekom's consolidated financial statements. Due to continuing contractual relationships, the corresponding expenses for purchased services will continue to be incurred after the sale of the GD tower companies.

Depreciation and amortization were suspended for the GD tower companies, which have been held for sale since July 13, 2022 in accordance with IFRS 5.

For further information on the discontinued operation, please refer to the section "Changes in the composition of the Group and other transactions."

34 Profit/loss attributable to non-controlling interests

millions of €	2022	2021	2020
T-Mobile US	1,146	1,408	2,287
Hrvatski Telekom	39	38	26
Hellenic Telecommunications Organization (OTE)	193	337	189
Magyar Telekom	71	73	58
T-Mobile Netherlands Holding B.V.	33	75	39
Other	0	(4)	(10)
	1,481	**1,927**	**2,589**

35 Dividend per share

For the 2022 financial year, the Board of Management and Supervisory Board will propose to the shareholders' meeting a dividend of EUR 0.70 for each no par value share carrying dividend rights. On the basis of this payout volume, total dividends in the amount of EUR 3,481 million would be appropriated to the no par value shares carrying dividend rights as of February 14, 2023. The final amount of the total dividend payment depends on the number of no par value shares carrying dividend rights as of the date of the resolution on the appropriation of net income as adopted on the day of the shareholders' meeting.

A dividend of EUR 0.64 for the 2021 financial year for each no par value share carrying dividend rights was paid out in 2022.

36 Earnings per share

Basic and diluted earnings per share are calculated in accordance with IAS 33 as follows:

		2022	2021	2020
Profit (loss) from continuing operations attributable to the owners of the parent (net profit (loss))	millions of €	7,558	3,969	4,011
Profit (loss) from discontinued operation attributable to the owners of the parent (net profit (loss))	millions of €	443	207	147
Profit (loss) attributable to the owners of the parent (net profit (loss))	millions of €	**8,001**	**4,176**	**4,158**
Number of ordinary shares issued	millions	4,986	4,831	4,761
Treasury shares	millions	(14)	(17)	(18)
Adjusted weighted average number of ordinary shares outstanding (basic/diluted)	millions	**4,972**	**4,813**	**4,743**
Earnings per share from continuing operations (basic/diluted)	€	**1.52**	**0.82**	**0.85**
Earnings per share from discontinued operation (basic/diluted)	€	**0.09**	**0.04**	**0.03**
Earnings per share (basic/diluted)	€	**1.61**	**0.87**	**0.88**

The calculation of earnings per share (basic/diluted) is based on the time-weighted number of all ordinary shares outstanding. Furthermore, the weighted average number of ordinary shares outstanding is determined by deducting the weighted average number of treasury shares held by Deutsche Telekom AG. There are currently no significant diluting effects.

Other disclosures

37 Notes to the consolidated statement of cash flows

Net cash from operating activities

Net cash from operating activities increased by EUR 3.6 billion year-on-year to EUR 35.8 billion. The strong business performance both in the United States and outside of the United States provided the basis for the positive trend. Exchange rate effects also had an increasing effect on net cash from operating activities. By contrast, higher cash outflows in connection with the integration of Sprint in the United States and an increase of EUR 0.4 billion in net interest payments had a decreasing effect. Factoring agreements of EUR 0.1 billion had a positive impact on net cash from operating activities in the 2022 financial year. In the prior year, factoring agreements had had negative effects of EUR 0.1 billion.

Deutsche Telekom defines operating working capital as the total of trade receivables, inventories, and trade and other payables. The positive effect on the change in assets carried as operating working capital is mainly attributable to the smaller increase of receivables under the Equipment Installment Plan compared with the prior year, and the reduction of stock levels of terminal equipment in the United States operating segment. In the 2022 financial year, the reduction in the stock levels of mobile terminal equipment was primarily driven by the extensive market launch of new models and the warehouse closures at former Sprint sites. The positive effect on the change in liabilities carried as operating working capital mainly resulted from lower cash outflows to terminal equipment manufacturers and to other suppliers in the United States operating segment.

For further information on individual assets carried as working capital, please refer to Note 2 “Trade receivables” and Note 4 “Inventories.”

For further information, please refer to Note 14 “Trade and other payables.”

Net cash used in/from investing activities

millions of €

	2022	2021	2020
Cash outflows for investments in intangible assets	(7,551)	(12,749)	(5,756)
Cash outflows for investments in property, plant and equipment	(16,563)	(13,616)	(12,938)
Payments for publicly funded investments in the broadband build-out	(377)	(436)	(507)
Proceeds from public funds for investments in the broadband build-out	435	420	431
Net cash flows for collateral deposited and hedging transactions	(2,346)	89	268
Changes in cash and cash equivalents in connection with the consummated business combination of T-Mobile US and Sprint	0	0	(4,767)
Of which: cash and cash equivalents acquired from Sprint[a]	0	0	1,997
Of which: repayment of Sprint loans pursuant to change-in-control clause	0	0	(6,764)
Changes in cash and cash equivalents in connection with the acquisition of Shentel at T-Mobile US	0	(1,588)	0
Cash outflows for the acquisition of shares in Simpel[b]	0	0	(255)
Other changes in cash and cash equivalents in connection with the acquisition of control of subsidiaries and associates	(52)	(29)	0
Changes in cash and cash equivalents in connection with the sale of the 75 % stake in T-Mobile Netherlands[c]	3,642	0	0
Changes in cash and cash equivalents in connection with the sale of the 50 % stake in GlasfaserPlus[d]	432	0	0
Changes in cash and cash equivalents in connection with the loss of control over DIVII[e]	108	0	0
Changes in cash and cash equivalents in connection with the contribution of the stake in T-Mobile Infra into Cellnex Netherlands[f]	0	135	0
Changes in cash and cash equivalents in connection with the sale of the stake in Telekom Romania Communications[g]	0	202	0
Changes in cash and cash equivalents associated with the sale of Sprint's prepaid business to DISH[h]	0	0	1,072
Changes in cash and cash equivalents in connection with the loss of control of subsidiaries and associates	26	37	22
Proceeds from the disposal of property, plant and equipment, and intangible assets	439	116	236
Other	(499)	16	(456)
Net cash used in investing activities	**(22,306)**	**(27,403)**	**(22,649)**
Of which: from discontinued operation	(277)	(296)	(204)

[a] Also includes a payment of EUR 93 million received in relation to a cost allocation from SoftBank in connection with CPUC.

[b] Includes, in addition to the purchase price of EUR 259 million, inflows of cash and cash equivalents in the amount of EUR 4 million.

[c] Includes, in addition to the cash inflow for the sale of the business operation of EUR 3,671 million, outflows of cash and cash equivalents in the amount of EUR 29 million.

[d] Includes, in addition to the cash inflow of EUR 441 million for the sale of the 50 % stake, outflows of cash and cash equivalents in the amount of EUR 9 million.

[e] Includes, in addition to the cash inflow of EUR 111 million in connection with the loss of control, outflows of cash and cash equivalents in the amount of EUR 3 million.

[f] Includes, in addition to the cash inflow for the sale of the business operation of EUR 113 million (cash inflow of EUR 118 million less outflows of cash and cash equivalents of EUR 5 million), the cash inflow from the sale-and-leaseback transaction of EUR 23 million.

[g] Includes, in addition to the cash inflow for the sale of the business operation of EUR 292 million, outflows of cash and cash equivalents in the amount of EUR 89 million.

[h] Of the overall purchase price payment of EUR 1,208 million, EUR 136 million are recognized under net cash from/used in financing activities. This relates to receivables from customers in connection with the Equipment Installment Plan in Sprint's sold prepaid business.

At EUR 24.1 billion, cash outflows for investments in intangible assets and property, plant and equipment were EUR 2.3 billion lower than in the prior year. In the United States operating segment, FCC mobile licenses were acquired for a total of EUR 3.0 billion and in the Europe operating segment, mobile spectrum licenses were acquired for a total of EUR 0.1 billion in the reporting period. Another EUR 0.1 billion was paid in this connection in the United States operating segment in the 2021 financial year as an advance payment and included in prior-year cash outflows for investments in intangible assets and property, plant and equipment. In the prior year, this item had included cash outflows for the acquisition of mobile spectrum licenses of EUR 8.3 billion in the United States operating segment and of EUR 0.1 billion in the Europe operating segment. Excluding investments in mobile spectrum licenses, cash outflows for investments in intangible assets and property, plant and equipment were up EUR 3.0 billion year-on-year. This change was primarily attributable to an increase in the United States operating segment as a result of the accelerated build-out of the 5G network, the integration of Sprint, and exchange rate effects. In the Germany operating segment, cash outflows for investments in intangible assets and property, plant and equipment increased by EUR 0.3 billion as a result of the continued fiber-optic and 5G build-out. A decline in the Group Development operating segment had an offsetting effect of EUR 0.3 billion, mainly due to the sale of T-Mobile Netherlands and lower build-out volumes by GD Towers.

The contractually promised government grants from publicly funded projects for the broadband build-out in Germany were recognized in full as receivables. They reduce the cost of the relevant property, plant and equipment. The grants received and payments made for the build-out continue to be recognized in net cash used in/from investing activities; however, they are not part of cash capex, because the payments made do not result in additions to property, plant and equipment. Since the payments are not made at the same point in time as the proceeds are received, the net amounts can be positive or negative in the individual periods.

Interest payments (including capitalized interest) of EUR 6.9 billion (2021: EUR 6.4 billion; 2020: EUR 7.6 billion) were made in the 2022 financial year. Capitalized interest of EUR 0.1 billion (2021: EUR 0.2 billion, 2020: EUR 0.3 billion) was reported within cash capex in net cash used in/from investing activities, together with the associated assets.

Net cash used in/from financing activities

millions of €

	2022	2021	2020
Repayment of bonds	(6,127)	(10,430)	(8,399)
Dividend payments (including to other shareholders of subsidiaries)	(3,385)	(3,145)	(3,067)
Repayment of financial liabilities from financed capex and opex	0	(108)	(358)
Repayment of EIB loans	(523)	(1,093)	(193)
Net cash flows for hedging transactions	121	0	(4)
Principal portion of repayment of lease liabilities	(4,951)	(6,458)	(5,371)
Repayment of financial liabilities for media broadcasting rights	(387)	(338)	(375)
Cash flows from continuing involvement factoring, net	24	(72)	(77)
Loans taken out with the EIB	749	0	425
Issuance of bonds	3,783	12,678	9,202
Commercial paper, net	2,280	0	0
Overnight borrowings from banks	209	0	0
Repayment of liabilities from 5G spectrum acquired in Germany	(195)	(195)	(110)
Repayment of liabilities from 5G spectrum acquired in the Netherlands	0	(204)	0
Repayment of liabilities with the right of creditors to priority repayment in the event of default	(500)	(888)	(559)
Changes in cash and cash equivalents in connection with the sale and leaseback of the passive mobile infrastructure of T-Mobile Infra	0	242	0
Issue of senior secured notes in connection with the acquisition of Sprint	0	0	20,942
Raising of secured term loan in connection with the acquisition of Sprint	0	0	3,562
Repayment of secured term loan in connection with the acquisition of Sprint	0	0	(3,389)
Raising of bridge loan facility in connection with the acquisition of Sprint	0	0	17,405
Repayment of bridge loan facility in connection with the acquisition of Sprint	0	0	(17,493)
Repayment of Sprint loans (raised prior to acquisition by T-Mobile US)	0	0	(3,572)
Cash inflows from transactions with non-controlling entities			
T-Mobile US stock options	7	9	42
Cellnex Netherlands capital contributions	17	4	0
Toll4Europe capital contributions	0	0	11
Other cash inflows	6	1	0
	29	**14**	**53**
Cash outflows from transactions with non-controlling entities			
Increase of the stake in T-Mobile US	(2,210)	0	0
T-Mobile US share buy-back/ share-based payment	(3,196)	(261)	(391)
OTE share buy-back	(294)	(190)	(142)
Other payments	(124)	(54)	(32)
	(5,823)	**(506)**	**(565)**
Other	(743)	(276)	(495)
Net cash (used in) from financing activities	**(15,438)**	**(10,779)**	**7,561**
Of which: from discontinued operation	(192)	(193)	(153)

Non-cash transactions in the consolidated statement of cash flows
In the 2022 financial year, Deutsche Telekom leased assets totaling EUR 11.1 billion, mainly network equipment, cell sites, and land and buildings. These assets will subsequently be recognized in the statement of financial position under right-of-use assets as well as non-current assets and disposal groups held for sale, and the related liabilities under lease liabilities and liabilities directly associated with non-current assets and disposal groups held for sale. Future repayments of the liabilities will be recognized in net cash used in/from financing activities. In the 2022 financial year, EUR 6.6 billion related to the modification of the arrangements with Crown Castle, resulting in an increase in the same amount in the carrying amount of the right-of-use assets and the lease liabilities. Excluding this effect, asset leases were down EUR 1.2 billion against the prior year. This decline was mainly due to the reduction in the number of cell sites in the United States operating segment due to the decommissioning of Sprint's wireless network. The modification of the arrangements also increased property, plant and equipment and other financial liabilities by EUR 0.8 billion each for contractual components that, due to their financing character, do not fall under the scope of IFRS 16.

For further information on the modification of the arrangements between T-Mobile US and Crown Castle, please refer to Note 8 "Right-of-use assets – lessee relationships."

Consideration for the acquisition of broadcasting rights is paid by Deutsche Telekom in accordance with the terms of the contract on the date of its conclusion or spread over the term of the contract. Financial liabilities of EUR 0.5 billion were recognized in the 2022 financial year for future consideration for acquired broadcasting rights (2021: EUR 0.5 billion). The payment of the consideration will be recognized in net cash used in/from financing activities.

In the United States operating segment, EUR 0.3 billion was recognized for mobile terminal equipment under property, plant and equipment in the 2022 financial year (2021: EUR 1.0 billion). This relates to the terminal equipment lease model at T-Mobile US, under which customers do not purchase the devices but lease them. The cash outflows are presented under net cash from operating activities. The decline was primarily due to the withdrawal from the terminal equipment lease model.

The carrying amounts of the financial liabilities associated with net cash used in/from financing activities, divided into carrying amount changes having and not having an effect on cash flows, developed as follows in the reporting year:

millions of €

	As of Jan. 1, 2022	Of which: payments to be disclosed in net cash used in/from financing activities[a]	Total carrying amount changes having an effect on cash flows	Changes in the composition of the Group
Bonds and other securitized liabilities	93,857	93,857	(850)	0
Liabilities to banks	4,003	3,640	227	0
	97,860	**97,497**	**(623)**	**0**
Liabilities with the right of creditors to priority repayment in the event of default	3,248	3,248	285	0
Other interest-bearing liabilities	7,826	6,567	(1,303)	1
Liabilities from deferred interest[b]	1,012	0	0	0
Other non-interest-bearing liabilities[b]	816	187	26	(190)
Derivative financial liabilities	703	179	(5)	0
	13,607	**10,181**	**(997)**	**(189)**
Financial liabilities	**111,466**	**107,678**	**(1,620)**	**(189)**
Lease liabilities	**33,133**	**33,133**	**(4,951)**	**0**
Derivative financial assets	**2,762**	**(324)**	**(114)**	**0**

[a] Deutsche Telekom exercised the option pursuant to IAS 7.33 and presented interest paid and interest received under net cash from operating activities.
[b] Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year onward. Prior-year comparatives were adjusted retrospectively.

millions of €	Carrying amount changes not having an effect on cash flows						
	Currency translation	Fair value	Carrying amount changes according to the effective interest method	Other	Total carrying amount changes not having an effect on cash flows	Carrying amount on Dec. 31, 2022 of the payments to be disclosed in net cash from/used in financing activities[a]	As of Dec. 31, 2022
Bonds and other securitized liabilities	3,908	(3,458)	(329)	675	796	93,802	93,802
Liabilities to banks	11	(174)	28	0	(135)	3,732	4,122
	3,919	**(3,632)**	**(301)**	**675**	**661**	**97,534**	**97,924**
Liabilities with the right of creditors to priority repayment in the event of default	146	0	(30)	(725)	(609)	2,925	2,925
Other interest-bearing liabilities	121	0	167	1,278	1,567	6,831	7,526
Liabilities from deferred interest[b]	0	0	0	0	0	0	999
Other non-interest-bearing liabilities[b]	0	0	0	0	(190)	22	769
Derivative financial liabilities	0	(10)	0	0	(10)	165	2,889
	267	**(10)**	**137**	**553**	**758**	**9,943**	**15,107**
Financial liabilities	**4,186**	**(3,642)**	**(164)**	**1,228**	**1,419**	**107,477**	**113,030**
Lease liabilities	**2,128**	**0**	**0**	**8,481**	**10,609**	**38,792**	**38,792**
Derivative financial assets	**0**	**561**	**0**	**0**	**561**	**123**	**2,273**

[a] Deutsche Telekom exercised the option pursuant to IAS 7.33 and presented interest paid and interest received under net cash from operating activities.

[b] Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year onward. Prior-year comparatives were adjusted retrospectively.

Total carrying amount changes having an effect on cash flows of EUR -6.5 billion reported in net cash used in/from financing activities deviate from net cash used in/from financing activities due in particular to the dividend entitlements of Deutsche Telekom AG's shareholders having an effect on cash flows, the interest paid in connection with financial liabilities reported in cash generated from operations, and the changes in non-controlling interests having an effect on cash flows. The other carrying amount changes in lease liabilities not having an effect on cash flows are mainly attributable to additions in connection with the recognition of right-of-use assets. The other carrying amount changes in financial liabilities not having an effect on cash flows include additions of EUR 0.5 billion for the acquisition of broadcasting rights.

In the 2022 financial year, Deutsche Telekom made total interest payments of EUR 6.9 billion to service interest obligations. This figure includes interest payments for derivative and non-derivative financial liabilities, interest payments for lease liabilities, and interest payments recognized under intangible assets and property, plant and equipment. The above reconciliation only shows the carrying amounts of the financial liabilities, lease liabilities, and derivative financial assets allocated to net cash used in/from financing activities.

For further information, please refer to the previous section "Non-cash transactions in the consolidated statement of cash flows."

The carrying amounts of the financial liabilities disclosed in net cash used in/from financing activities, divided into carrying amount changes having and not having an effect on cash flows, developed as follows in 2021:

millions of €

	As of Jan. 1, 2021	Of which: payments to be disclosed in net cash used in/from financing activities[a]	Total carrying amount changes having an effect on cash flows	Changes in the composition of the Group
Bonds and other securitized liabilities	87,702	87,702	2,091	(4)
Liabilities to banks	5,257	4,581	(888)	(21)
	92,959	**92,283**	**1,203**	**(25)**
Liabilities with the right of creditors to priority repayment in the event of default	3,886	3,886	(811)	0
Other interest-bearing liabilities	7,696	6,526	(1,389)	(3)
Liabilities from deferred interest[b]	1,035	0	0	0
Other non-interest-bearing liabilities[b]	667	3	48	136
Derivative financial liabilities	864	827	(6)	0
	14,149	**11,242**	**(2,158)**	**133**
Financial liabilities	**107,108**	**103,525**	**(955)**	**108**
Lease liabilities	**32,715**	**32,715**	**(6,458)**	**285**
Derivative financial assets	**4,038**	**(142)**	**(1)**	**0**

[a] Deutsche Telekom exercised the option pursuant to IAS 7.33 and presented interest paid and interest received under net cash from operating activities.

[b] Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year onward. Prior-year comparatives were adjusted retrospectively.

millions of €

	Carrying amount changes not having an effect on cash flows						
	Currency translation	Fair value	Carrying amount changes according to the effective interest method	Other	Total carrying amount changes not having an effect on cash flows	Carrying amount on Dec. 31, 2021 of the payments to be disclosed in net cash used in/from financing activities[a]	As of Dec. 31, 2021
Bonds and other securitized liabilities	5,325	(1,000)	(235)	(23)	4,063	93,857	93,857
Liabilities to banks	0	(51)	29	(11)	(54)	3,640	4,003
	5,325	**(1,051)**	**(206)**	**(34)**	**4,009**	**97,497**	**97,860**
Liabilities with the right of creditors to priority repayment in the event of default	283	0	(32)	(77)	174	3,248	3,248
Other interest-bearing liabilities	198	0	174	1,060	1,429	6,567	7,826
Liabilities from deferred interest[b]	0	0	0	0	0	0	1,012
Other non-interest-bearing liabilities[b]	1	0	0	0	137	187	816
Derivative financial liabilities	0	(642)	0	0	(642)	179	703
	483	**(642)**	**142**	**983**	**1,099**	**10,181**	**13,607**
Financial liabilities	**5,808**	**(1,693)**	**(64)**	**949**	**5,108**	**107,678**	**111,466**
Lease liabilities	**2,225**	**0**	**0**	**4,366**	**6,876**	**33,133**	**33,133**
Derivative financial assets	**0**	**(181)**	**0**	**0**	**(181)**	**(324)**	**2,762**

[a] Deutsche Telekom exercised the option pursuant to IAS 7.33 and presented interest paid and interest received under net cash from operating activities.

[b] Liabilities from deferred interest include outstanding interest payments on non-derivative financial liabilities that are economically allocable to the financial year, but which have not yet been paid due to the fact that the interest payment date is in the future. In the interests of transparency, these liabilities will be presented separately from the 2022 reporting year onward. Prior-year comparatives were adjusted retrospectively.

38 Segment reporting

Deutsche Telekom reports on five operating segments, as well as on the Group Headquarters & Group Services segment. Three operating segments are distinguished by region (Germany, United States, Europe), one by customers and products (Systems Solutions), and another by tasks (Group Development). For three operating segments, business activities are assigned by customer and product (Germany, Systems Solutions, United States), while one operating segment allocates its activities on a regional basis (Europe) and another allocates them by equity investment (Group Development).

The **Germany** operating segment comprises all fixed-network and mobile business activities for consumers and business customers, including separate sales entities in Germany to allow a customer-centric sales approach. Furthermore, the security business in Germany, Austria, Switzerland, Hungary, and Slovakia has been merged in this segment since the reporting year. Another focus is on the wholesale business to provide telecommunications services for other carriers. Build-out of the mobile and fixed networks is managed by the Technology business unit in this segment.

The **United States** operating segment combines all mobile activities in the U.S. market. T-Mobile US offers services, terminal equipment, and accessories for consumers. In addition, the company sells devices to dealers and other third-party distributors for resale. In addition to wireless communications services, T-Mobile US also provides complementary products, including high-speed internet, device protection, and wireline communication services.

The **Europe** operating segment comprises all fixed-network and mobile operations of the national companies in Greece, Hungary, Poland, the Czech Republic, Croatia, Slovakia, Austria, North Macedonia, and Montenegro. As of September 30, 2021, OTE consummated the sale of its 54 % stake in Telekom Romania Communications to Orange Romania. Since the transaction, Deutsche Telekom has been focusing on mobile operations in Romania. Besides traditional B2C fixed-network and mobile business, most of the national companies also offer ICT solutions for business customers.

The **Systems Solutions** operating segment offers business customers a focused product and solution portfolio under the T-Systems brand. With its horizontal offerings for advisory services, cloud computing, and digitalization solutions, T-Systems addresses the growth areas in the information technology market. Data sovereignty and security solutions are at the core of the product options, supplemented with strategic partnerships. Focused vertical offerings penetrate deep into the value chains of selected industries (automotive, healthcare, public sector, and transportation).

The goal of the **Group Development** operating segment is to actively manage entities and equity investments to grow their value. In this context, the subsidiary T-Mobile Netherlands was sold on March 31, 2022. Within the segment, the GD Towers business entity comprises the German and Austrian cell tower businesses. On July 13, 2022, an agreement was signed for the sale of 51.0 % of the shares in this entity. The investment management group Deutsche Telekom Capital Partners; Comfort Charge, which is a provider of e-mobility charging infrastructure; and the Group functions of Mergers & Acquisitions and strategic Portfolio Management are also assigned to Group Development.

The **Group Headquarters & Group Services** segment comprises all Group units that cannot be allocated directly to one of the operating segments, and also reports on the Board of Management department for Technology and Innovation. Group Headquarters defines strategic aims for the Group, ensures they are met, and becomes directly involved in selected Group projects. Group Services provides services to the entire Group; in addition to typical services provided by Deutsche Telekom Services Europe, such as financial accounting, human resources services, and operational procurement, Group Services also includes the placement services of personnel services provider Vivento. Further units are Group Supply Services (GSUS) for real estate management and strategic procurement, and MobilitySolutions, which is a full-service provider for fleet management and mobility services.

Changes to the segment and organizational structure in 2022

Effective July 1, 2022, Deutsche Telekom Security GmbH and the **security business** in Germany, Austria, Switzerland, Hungary, and Slovakia were reassigned from the Systems Solutions operating segment to the Germany operating segment. As of the third quarter of 2022, the prior-year comparatives were adjusted retrospectively. As a result of the agreement concluded on July 13, 2022, the **GD tower companies**, which operate the cell tower business in Germany and Austria in the Group Development operating segment, were recognized for the first time in the interim consolidated financial statements as of September 30, 2022 as a discontinued operation. Likewise as of the third quarter of 2022, the prior-year comparatives were adjusted retrospectively. In light of the IFRS Interpretations Committee's agenda decision published in May 2022 on transactions involving the commercial resale of software, Deutsche Telekom has implemented comprehensive changes to its accounting practices with respect to the recognition of **gross vs. net revenues,** effective the start of the third quarter of 2022. The prior-year comparatives for revenue and goods and services purchased were adjusted accordingly with retrospective effect.

For further information, please refer to the section "Summary of accounting policies" under "Changes in accounting policies and changes in the reporting structure."

The business segments presented are reviewed at regular intervals by the Deutsche Telekom Board of Management in terms of the allocation of resources and their earnings performance.

The measurement principles for Deutsche Telekom's segment reporting structure are based primarily on the IFRSs adopted in the consolidated financial statements. Deutsche Telekom evaluates the segments' performance based on revenue and profit/ loss from operations (EBIT), among other factors. Revenue generated and goods and services exchanged between segments are calculated on the basis of market prices. Services provided by Deutsche Telekom IT are generally charged at cost. Development services are not charged, but capitalized at segment level in accordance with the internal control logic. In accordance with the segments' control logic, intragroup leases are not capitalized by the lessee, but instead recognized as periodic expenses. In accordance with the Company's own principles of segment management, when loans with embedded derivatives are granted internally to Group entities, the derivative component is recognized separately also in the creditor company's financial statements and measured at fair value through profit or loss. Segment assets and liabilities include all assets and liabilities that are carried in the financial statements prepared by the segments and included in the consolidated financial statements. Segment investments include additions to intangible assets, property, plant and equipment, and right-of-use assets. Where entities accounted for using the equity method are directly allocable to a segment, their shares of profit or loss after income taxes and their carrying amounts are reported in that segment's accounts. All of the performance indicators shown in the following tables are presented exclusively from the segments' perspective: The effects of intersegment transactions are eliminated and presented in aggregate form in the reconciliation line.

The following table shows the performance indicators used by Deutsche Telekom to evaluate the operating segments' performance as well as additional segment-related indicators:

millions of €

		Net revenue	Inter-segment revenue	Total revenue	Profit (loss) from operations (EBIT)	Depreciation and amortization	Impairment losses	Interest income
Germany	2022	23,912	593	24,505	7,006	(4,005)	(14)	32
	2021	23,391	659	24,050	4,956	(4,006)	(15)	4
	2020	22,886	826	23,712	3,959	(4,458)	(64)	4
United States	2022	75,429	7	75,436	7,470	(18,371)	(866)	75
	2021	67,789	2	67,791	7,217	(18,292)	(46)	16
	2020	60,701	1	60,702	9,187	(15,574)	(91)	24
Europa	2022	10,944	214	11,158	1,724	(2,444)	(128)	27
	2021	11,074	220	11,294	1,814	(2,561)	(15)	21
	2020	11,054	197	11,251	1,278	(2,648)	(227)	23
Systems Solutions	2022	3,106	705	3,811	(110)	(228)	(111)	35
	2021	3,032	727	3,759	(247)	(243)	(178)	9
	2020	3,099	812	3,911	(524)	(337)	(371)	7
Group Development	2022	828	880	1,708	1,911	(195)	0	6
	2021	2,333	832	3,165	1,084	(706)	0	2
	2020	2,202	681	2,883	562	(780)	0	1
Group Headquarters & Group Services	2022	193	2,214	2,407	(1,837)	(1,439)	(37)	868
	2021	193	2,322	2,515	(1,764)	(1,434)	(30)	1,204
	2020	196	2,360	2,556	(1,655)	(1,259)	(45)	1,237
Total from continuing operations and the discontinued operation	**2022**	**114,413**	**4,612**	**119,025**	**16,164**	**(26,682)**	**(1,156)**	**1,043**
	2021	**107,811**	**4,763**	**112,574**	**13,060**	**(27,242)**	**(284)**	**1,256**
	2020	**100,139**	**4,876**	**105,015**	**12,807**	**(25,056)**	**(798)**	**1,296**
Reconciliation	2022	0	(4,612)	(4,612)	(5)	11	0	(662)
	2021	0	(4,763)	(4,763)	(3)	45	0	(805)
	2020	0	(4,876)	(4,876)	(3)	25	0	(882)
Consolidated total from continuing operations and the discontinued operation	**2022**	**114,413**	**0**	**114,413**	**16,159**	**(26,671)**	**(1,156)**	**381**
	2021	**107,811**	**0**	**107,811**	**13,057**	**(27,197)**	**(284)**	**451**
	2020	**100,139**	**0**	**100,139**	**12,804**	**(25,031)**	**(798)**	**414**
Discontinued operation	2022	(216)	(938)	(1,154)	(745)	192	0	6
	2021	(201)	(887)	(1,088)	(477)	391	0	160
	2020	(192)	(737)	(929)	(438)	295	0	175
Reconciliation	2022	0	938	938	0	0	0	0
	2021	0	887	887	0	0	0	0
	2020	0	736	736	0	0	0	0
Group total	**2022**	**114,197**	**0**	**114,197**	**15,414**	**(26,479)**	**(1,156)**	**387**
	2021	**107,610**	**0**	**107,610**	**12,580**	**(26,806)**	**(284)**	**611**
	2020	**99,946**	**0**	**99,946**	**12,366**	**(24,736)**	**(798)**	**589**

[a] Cash outflows for investments in intangible assets (excluding goodwill) and property, plant and equipment, as shown in the statement of cash flows.

[b] The average number of employees was adjusted retrospectively for 2020 in the Germany operating segment and the Group Headquarters & Group Services segment.

Interest expense	Share of profit (loss) of associates and joint ventures accounted for using the equity method	Income taxes	Segment assets	Segment liabilities	Segment investments	Investments accounted for using the equity method	Net cash from operating activities	Net cash used in/ from investing activities	Of which: cash capex[a]	Net cash used in/ from financing activities	Average number of employees[b]
(372)	(516)	(7)	49,366	33,167	4,995	511	9,424	(1,940)	(4,399)	(7,521)	60,443
(350)	(15)	(5)	46,535	33,188	4,450	33	8,615	(4,214)	(4,119)	434	63,174
(283)	(6)	(6)	45,223	32,832	4,305	34	8,006	(4,193)	(4,195)	(3,930)	68,782
(4,438)	24	(409)	215,581	143,900	28,446	368	23,569	(16,165)	(16,340)	(8,978)	69,056
(3,776)	8	(325)	196,781	129,522	25,035	323	19,663	(19,816)	(18,594)	(3,042)	70,793
(3,384)	13	(1,292)	176,765	117,681	26,735	296	13,501	(14,001)	(10,394)	8,469	65,015
(130)	(18)	(379)	23,449	8,202	2,469	36	3,775	(1,639)	(1,872)	(2,485)	34,621
(137)	0	(425)	24,135	8,284	2,570	54	3,739	28	(1,905)	(3,776)	38,404
(189)	0	(210)	27,034	9,172	2,911	54	3,725	(3,244)	(2,216)	(655)	42,359
(52)	(2)	(50)	4,087	3,240	261	23	117	(226)	(221)	284	26,643
(25)	(1)	(40)	3,993	3,503	326	23	158	(138)	(235)	96	25,878
(25)	1	(32)	3,988	3,650	315	23	106	(432)	(231)	488	27,791
(74)	(30)	(50)	6,444	8,572	318	365	756	(3,887)	(343)	(1,770)	1,289
(280)	(66)	(45)	10,700	6,587	1,303	491	1,356	(809)	(572)	(635)	2,721
(271)	(21)	33	9,212	11,220	1,392	122	1,101	(1,020)	(699)	(215)	2,664
(1,311)	20	(1,324)	40,522	55,067	1,165	15	7,981	964	(973)	(4,180)	19,183
(1,287)	(27)	(977)	38,851	58,470	1,116	14	4,058	(3,922)	(1,007)	(7,805)	19,870
(1,364)	0	(424)	48,047	63,188	1,222	14	1,727	5,227	(990)	(6,035)	16,928
(6,377)	**(522)**	**(2,219)**	**339,449**	**252,148**	**37,654**	**1,318**	**45,622**	**(22,893)**	**(24,148)**	**(24,650)**	**211,236**
(5,855)	**(101)**	**(1,817)**	**320,995**	**239,554**	**34,800**	**938**	**37,589**	**(28,871)**	**(26,432)**	**(14,728)**	**220,840**
(5,516)	**(13)**	**(1,931)**	**310,269**	**237,743**	**36,880**	**543**	**28,166**	**(17,663)**	**(18,725)**	**(1,878)**	**223,539**
662	0	(2)	(40,859)	(40,878)	(174)	0	(9,803)	587	34	9,212	0
803	(1)	2	(39,368)	(39,395)	(75)	0	(5,418)	1,468	66	3,949	0
878	1	2	(45,352)	(45,376)	(32)	0	(4,423)	(4,986)	31	9,439	0
(5,715)	**(522)**	**(2,221)**	**298,590**	**211,270**	**37,480**	**1,318**	**35,819**	**(22,306)**	**(24,114)**	**(15,438)**	**211,236**
(5,052)	**(102)**	**(1,815)**	**281,627**	**200,159**	**34,725**	**938**	**32,171**	**(27,403)**	**(26,366)**	**(10,779)**	**220,840**
(4,638)	**(12)**	**(1,929)**	**264,917**	**192,367**	**36,848**	**543**	**23,743**	**(22,649)**	**(18,694)**	**7,561**	**223,539**
36	(2)	284	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
25	0	83	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
21	2	72	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
0	(1)	(1)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
(5,679)	**(524)**	**(1,937)**	**298,590**	**211,270**	**37,480**	**1,318**	**35,819**	**(22,306)**	**(24,114)**	**(15,438)**	**211,236**
(5,027)	**(102)**	**(1,732)**	**281,627**	**200,159**	**34,725**	**938**	**32,171**	**(27,403)**	**(26,366)**	**(10,779)**	**220,840**
(4,617)	**(11)**	**(1,858)**	**264,917**	**192,367**	**36,848**	**543**	**23,743**	**(22,649)**	**(18,694)**	**7,561**	**223,539**

Information on geographic areas. The Group’s non-current assets and net revenue are shown by region: Germany, Europe (excluding Germany), North America, and other countries. The North America region comprises the United States and Canada. The Europe (excluding Germany) region covers the entire European Union (excluding Germany) and the other countries in Europe. Other countries include all countries that are not Germany or in Europe (excluding Germany) or North America. Non-current assets are allocated to the regions according to the location of the assets in question. Non-current assets encompass intangible assets; property, plant and equipment; right-of-use assets; capitalized contract costs; investments accounted for using the equity method; as well as other non-current assets. Net revenue is allocated according to the location of the respective customers’ operations.

millions of €

	Non-current assets			Net revenue		
	Dec. 31, 2022	Dec. 31, 2021	Dec. 31, 2020	2022	2021	2020
Germany	41,257	42,928	42,941	25,057	24,550	24,277
International	204,829	187,158	170,295	89,140	83,061	75,669
Europe (excluding Germany)	18,412	19,941	23,075	13,202	14,810	14,427
North America	186,340	167,122	147,115	75,406	67,795	60,782
Other countries	76	95	106	532	456	460
Group	**246,086**	**230,086**	**213,236**	**114,197**	**107,610**	**99,946**

Information on products and services. Revenue generated with external customers for groups of comparable products and services developed as follows:

millions of €

	Net revenue		
	2022	2021	2020
Telecommunications	108,671	102,793	94,943
ICT solutions	4,985	4,549	4,756
Other	540	268	247
	114,197	**107,610**	**99,946**

39 Contingencies

As part of its ordinary business activities, Deutsche Telekom is involved in various proceedings both in and out of court with government agencies, competitors, and other parties, the outcome of which often cannot be reliably anticipated. As of the reporting date, the Group was exposed to contingent liabilities amounting to EUR 0.1 billion (December 31, 2021: EUR 0.1 billion) and to contingent assets amounting to EUR 0.0 billion (December 31, 2021: EUR 0.0 billion) that, on the basis of the information and estimates available, do not fulfill the requirements for recognition as liabilities or assets in the statement of financial position. Litigation provisions include the costs of legal counsel services and any probable losses. Deutsche Telekom does not believe that any additional costs arising from legal counsel services or the results of proceedings will have a material adverse effect on the results of operations and financial position of the Group. The aforementioned total contingent liabilities only include individual cases that do not have any significant impact on their own. In the event that, in extremely rare cases, Deutsche Telekom comes to the conclusion that the disclosures required by IAS 37 could seriously undermine the outcome of the relevant proceedings, these disclosures will not be made.

Contingent liabilities

On the basis of the information and estimates available, the following issues do not fulfill the requirements for recognition as liabilities in the statement of financial position. As it is not possible to estimate the amount of the contingent liabilities or the group of contingent liabilities with sufficient reliability in each case due to the uncertainties described below, they have not been included in the aforementioned total contingent liabilities.

Claims relating to charges for the shared use of cable ducts. In 2012, Kabel Deutschland Vertrieb und Service GmbH (today Vodafone Deutschland GmbH (VDG)) filed a claim against Telekom Deutschland GmbH to reduce the annual charge for the rights to use cable duct capacities. In similar proceedings, the then Unitymedia Hessen GmbH & Co. KG, Unitymedia NRW GmbH, and Kabel BW GmbH (today all Vodafone West) filed claims against Telekom Deutschland GmbH in January 2013, demanding that it cease charging the plaintiffs more than a specific and precisely stated amount for the shared use of cable ducts, including in the future. The claims were rejected by the Frankfurt Higher Regional Court (VDG) and by the Düsseldorf Higher Regional Court (Vodafone West) and an appeal was not allowed in both cases. In response to the complaints of the plaintiffs against non-allowance of appeal, the Federal Court of Justice allowed the appeal by VDG to the extent that it relates to claims dating from January 1, 2012; the appeal by Vodafone West was allowed to the extent that it relates to claims dating from January 1, 2016. The claims were rejected with legally binding effect for the time periods prior to this. In a ruling on December 14, 2021, the Federal Court of Justice referred the proceedings concerning the remaining claims back to the responsible Higher Regional Courts for a new hearing and decision. VDG has since updated its claim, which it now puts at around EUR 749 million plus interest for the period from January 2012 to December 2021. The plaintiff Vodafone West has also updated its claim, which it now puts at around EUR 418 million plus interest for the period from January 2016 to June 2022. At present the financial impact of both these proceedings cannot be assessed with sufficient certainty.

Sprint Merger class action. On June 1, 2021, a shareholder class action and derivative action was filed in the Delaware Court of Chancery against Deutsche Telekom AG, SoftBank, T-Mobile US, and all of our officers and directors at that time, asserting a breach of fiduciary duties relating to the purchase price amendment to the Merger Agreement, as well as SoftBank's subsequent monetization of its T-Mobile US shares. On October 29, 2021, the complaint was amended. The amended complaint is directed at the same defendants and the same underlying transactions as in the original action; however, it includes additional submission on alleged facts. At present the financial impact of these proceedings cannot be assessed with sufficient certainty.

Proceedings against T-Mobile US in consequence of the cyberattack on T-Mobile US in August 2021. In August 2021, T-Mobile US confirmed that their systems had been subject to a criminal cyberattack that compromised data of millions of their customers, former customers, and prospective customers. With the assistance of outside cybersecurity experts, T-Mobile US located and closed the unauthorized access to their systems and identified customers whose information was impacted and notified them, consistent with state and federal requirements. As a result of the cyberattack, numerous consumer class actions including mass arbitrations were filed against T-Mobile US. The class actions brought before the federal courts were consolidated into one action in December 2021. The plaintiffs are claiming damages in an as yet unspecified amount. On July 22, 2022, T-Mobile US entered into an agreement to settle the consumer class action in the Federal Court for USD 350 million. In addition, T-Mobile US has committed to spending a total of USD 150 million in 2022 and 2023 on data security and related technologies. The settlement is subject to final court approval. T-Mobile US expects that the settlement of the consumer class action, if approved by the court, together with further settlements already or still to be concluded with consumers, will satisfy essentially all claims asserted to date by current, former, and potential customers affected by the cyberattack in 2021. T-Mobile US has recognized corresponding provisions for risks in the statement of financial position of around USD 0.3 billion (EUR 0.3 billion).

Furthermore, in November 2021, a derivative action was brought against the members of the Board of Directors of T-Mobile US and against T-Mobile US as nominal defendant. This action has since been withdrawn. In September 2022, a further purported shareholder filed a new derivative action against the members of the Board of Directors of T-Mobile US and against T-Mobile US as nominal defendant alleging claims for breach of fiduciary duties relating to the company's cybersecurity practices. It is currently not possible to estimate the resultant financial risk with sufficient certainty.

In addition, inquiries have been made by various government agencies, law enforcement and other state authorities, with which T-Mobile US is cooperating in full. At present the financial impact of these proceedings cannot be assessed with sufficient certainty.

Proceedings against T-Mobile US in consequence of the cyberattack on T-Mobile US in January 2023. On January 5, 2023 T-Mobile US identified that a bad actor was obtaining data through an application programming interface (API). Based on the company's preliminary investigation, the affected API was only able to provide a limited set of customer account data, including name, billing address, email address, telephone number, date of birth, T-Mobile account number, and information such as the number of lines on the account and plan features. The preliminary results of the investigation indicate that, in total, around 37 million current postpaid and prepaid customer accounts were affected, although many of these accounts did not include the full data set. Based on an initial assessment, T-Mobile US assumes that the attacker retrieved data via the affected API for the first time from or around November 25, 2022. The company continues to investigate the incident and, in accordance with federal and state requirements, has notified those individuals whose data was affected. In connection with this cyberattack, consumer class actions were filed against T-Mobile US and official inquiries were submitted to the company, to which it will respond and, as a result of which, it may incur substantial expenses. It is currently not possible to estimate the resultant financial risk with sufficient certainty.

Patents and licenses. Like many other large telecommunications and internet providers, Deutsche Telekom is exposed to a growing number of intellectual property rights disputes. There is a risk that Deutsche Telekom may have to pay license fees and/or compensation; Deutsche Telekom is also exposed to a risk of cease-and-desist orders, for example relating to the sale of a product or the use of a technology.

Anti-trust and consumer protection proceedings. Deutsche Telekom and its subsidiaries are subject to proceedings under anti-trust law in various jurisdictions, which may also lead to civil follow-on claims. Taken individually, none of the proceedings has a material impact. Deutsche Telekom believes the respective allegations and claims for damages are unfounded. The outcome of the proceedings cannot be foreseen at this point in time.

Claims for damages against Slovak Telekom following a European Commission decision to impose fines. The European Commission decided on October 15, 2014 that Slovak Telekom had abused its market power on the Slovak broadband market and as a result imposed fines on Slovak Telekom and Deutsche Telekom AG, which were paid in full in January 2015. After the General Court of the European Union partially overturned the European Commission's decision in 2018 and reduced the fines by a total of EUR 13 million, the legal recourse following the ruling of the European Court of Justice on March 25, 2021 is exhausted. Following the decision of the European Commission, competitors filed damage actions against Slovak Telekom with the civil court in Bratislava. These claims seek compensation for alleged damages due to Slovak Telekom's abuse of a dominant market position, as determined by the European Commission. A further claim was filed with the court in the reporting period, such that there are now three claims pending, amounting to a total of EUR 219 million plus interest. It is currently not possible to estimate the financial impact with sufficient certainty.

Claims for damages against Deutsche Telekom AG, including due to insolvency of Phones4U. Phones4U was an independent British mobile retailer, which declared insolvency in 2014. The insolvency administrator is pursuing claims before the High Court of Justice in London against the mobile providers active on the UK market at that time and their parent companies on the grounds of alleged collusion in violation of anti-trust law and breach of contract. Deutsche Telekom AG, which at that time held 50 % of the mobile company EE Limited, has rejected the claims as unsubstantiated. The High Court of Justice in London heard testimony from several witnesses and experts in the period between mid-May and the end of July 2022 with a view to establishing the legal basis for a claim. Phones4U is still seeking damages in an as yet undisclosed amount. It is currently not possible to estimate the financial impact with sufficient certainty.

Tax risks. In many countries, Deutsche Telekom is subject to the applicable tax regulations. Risks can arise from changes in local taxation laws or case law and different interpretations of existing provisions. As a result, they can affect Deutsche Telekom's tax expense and benefits as well as tax receivables and liabilities.

40 Lessor relationships

Finance leases. Deutsche Telekom is a lessor in connection with finance leases. Essentially, these relate to the leasing of routers and other hardware, which Deutsche Telekom provides to its customers for data and telephone network solutions.

The following table shows how the amount of the net investment in a finance lease is determined:

millions of €	Dec. 31, 2022	Dec. 31, 2021
Lease payments	215	240
Unguaranteed residual value	1	2
Gross investment	215	242
Unearned finance income	(10)	(13)
Net investment (present value of the lease payments)	**205**	**228**

The following table presents the gross investment amounts and the present value of payable lease payments:

millions of €	Dec. 31, 2022		Dec. 31, 2021	
Maturity	Gross investment	Present value of lease payments	Gross investment	Present value of lease payments
Within 1 year	94	90	93	88
In 1 to 2 years	77	73	78	72
In 2 to 3 years	24	23	45	44
In 3 to 4 years	10	10	15	15
In 4 to 5 years	5	4	6	5
After 5 years	6	6	5	5
	215	**205**	**242**	**228**

Operating leases. Deutsche Telekom is a lessor in connection with operating leases. The underlying leases mainly relate to mobile terminal equipment in the United States operating segment, cell sites, building and co-location space, and unbundled local loop lines. By contrast, contracts on the provision of the latest generation of modems/routers to consumers in the fixed-network mass market do not satisfy the definition of a lease, where modem and router features are incorporated in one device.

Where terminal equipment is leased in the United States operating segment, customers are entitled to receive a new device once per month during the term of the lease. On receipt of the new device or at the end of the contract, the customer either returns or purchases the equipment. The purchase price at the end of the lease is set at the commencement of the lease and is equal to the estimated residual value of the equipment. The purchase price is based on the type of equipment and the advance payment. The contracts do not contain any residual value guarantees or variable lease payments, nor do they contain any restrictions or covenants. Terminal equipment returned by customers is prepared for sale in the secondary market or for use as a replacement for defective devices. This reduces the residual value risk of the returned equipment.

The leasing of local loop lines and space to wholesale fixed-network customers (e.g., co-location space) is also classified as a lease. The regulator requires Deutsche Telekom to make co-location space and unbundled local loop lines available to competitors. In contrast to unregulated products, the residual value risk for these assets is rather low because competitors are economically dependent on the use of these assets. In the unlikely event that co-location space and unbundled local loop lines are not leased, Deutsche Telekom will try to find new tenants for the vacant space or unleased lines. In the case of its own cell sites, Deutsche Telekom will also strive to continue leasing – where possible – all of the free space that it does not itself occupy. The aim here is to reduce the vacancy rate of unused space as far as possible by re-letting and to spread the cost.

Operating leases exist for the following items of property, plant and equipment:

millions of €	Land and buildings	Technical equipment and machinery	Other equipment, operating and office equipment	**Total**
Cost				
At December 31, 2020	**2**	**6,318**	**2**	**6,322**
Currency translation	0	352	0	352
Changes in the composition of the Group	0	0	0	0
Additions	0	1,134	0	1,134
Disposals	0	(3,733)	0	(3,733)
Change from non-current assets and disposal groups held for sale	0	0	0	0
Reclassifications	20	167	2	189
At December 31, 2021	**22**	**4,239**	**3**	**4,264**
Currency translation	0	202	0	202
Changes in the composition of the Group	0	0	0	0
Additions	0	467	1	468
Disposals	0	(2,477)	0	(2,477)
Change from non-current assets and disposal groups held for sale	0	(4)	0	(4)
Reclassifications	0	9	1	10
At December 31, 2022	**22**	**2,437**	**6**	**2,465**
Accumulated depreciation and impairment losses				
At December 31, 2020	**(1)**	**(2,156)**	**(1)**	**(2,157)**
Currency translation	0	(157)	0	(157)
Changes in the composition of the Group	0	0	0	0
Additions (depreciation)	(1)	(2,716)	(1)	(2,718)
Additions (impairment)	0	0	0	0
Disposals	0	2,521	0	2,521
Change from non-current assets and disposal groups held for sale	0	0	0	0
Reclassifications	(18)	(92)	0	(109)
Reversal of impairment losses	0	0	0	0
At December 31, 2021	**(20)**	**(2,599)**	**(2)**	**(2,621)**
Currency translation	0	(133)	0	(133)
Changes in the composition of the Group	0	0	0	0
Additions (depreciation)	(1)	(1,201)	(1)	(1,203)
Additions (impairment)	0	0	0	0
Disposals	0	2,106	0	2,106
Change from non-current assets and disposal groups held for sale	0	4	0	4
Reclassifications	0	3	0	3
Reversal of impairment losses	0	0	0	0
At December 31, 2022	**(21)**	**(1,819)**	**(3)**	**(1,843)**
Net carrying amounts				
At December 31, 2021	2	1,640	2	1,644
At December 31, 2022	**2**	**618**	**3**	**622**

The maturity analysis of the lease payments arising from operating leases is as follows:

millions of € Maturity	Dec. 31, 2022	Dec. 31, 2021
Within 1 year	549	771
In 1 to 2 years	357	371
In 2 to 3 years	259	255
In 3 to 4 years	271	268
In 4 to 5 years	218	219
After 5 years	845	861
	2,500	**2,745**

The reduction in lease payments of EUR 0.2 billion is mainly the result of the strategic withdrawal from the terminal equipment lease business in the United States operating segment. Of the EUR 2.5 billion of lease payments, as of December 31, 2022, EUR 1.9 billion related to DFMG Deutsche Funkturm GmbH, which is part of the GD tower companies held for sale. This entity leases cell sites to third parties.

For further information on the aforementioned business transaction, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

41 Other financial obligations

The following table provides an overview of Deutsche Telekom's other financial obligations:

millions of €	Dec. 31, 2022			
	Total	Due within 1 year	Due > 1 year ≤ 5 years	Due > 5 years
Purchase commitments regarding property, plant and equipment	6,835	6,092	576	167
Purchase commitments regarding intangible assets	5,427	4,916	510	1
Firm purchase commitments for inventories	4,448	4,435	13	0
Other purchase commitments and similar obligations	25,757	13,376	9,257	3,124
Payment obligations to the Civil Service Pension Fund	945	72	803	70
Obligations from the acquisition of interests in other companies	178	178	0	0
Miscellaneous other obligations	13	8	5	0
	43,603	**29,077**	**11,164**	**3,362**

Other purchase commitments and similar obligations mainly comprise obligations for the procurement of services, such as maintenance and servicing, IT services, marketing measures, and outsourcing. Of the total EUR 43.6 billion of other financial obligations, EUR 0.2 billion related to DFMG Deutsche Funkturm GmbH, which is part of the GD tower companies held for sale.

42 Financial instruments and risk management

For further information on financial instruments, please refer in particular to Note 2 "Trade receivables," Note 11 "Other financial assets," Note 13 "Financial liabilities and lease liabilities," Note 29 "Finance costs," and Note 31 "Other financial income/expense."

Carrying amounts, amounts recognized, and fair values by class and measurement category

millions of €

			Amounts recognized in the statement of financial position in accordance with IFRS 9					
	Measurement category in accordance with IFRS 9	**Carrying amount Dec. 31, 2022**	Amortized cost	Fair value through other comprehensive income without recycling to profit or loss	Fair value through other comprehensive income with recycling to profit or loss	Fair value through profit or loss[a]	Amounts recognized in the statement of financial position in accordance with IFRS 16	**Fair value Dec. 31, 2022[b]**
Assets								
Cash and cash equivalents	AC	5,767	5,767					
Trade receivables								
At amortized cost	AC	6,926	6,926					
At fair value through other comprehensive income	FVOCI	9,841			9,841			9,841
Other financial assets								
Originated loans and other receivables								
At amortized cost	AC	6,337	6,337					6,347
Of which: collateral paid	AC	1,484	1,484					
Of which: publicly funded projects	AC	2,019	2,019					
At fair value through other comprehensive income	FVOCI	0	0		0			0
At fair value through profit or loss	FVTPL	646				646		646
Equity instruments								
At fair value through other comprehensive income	FVOCI	446		446				446
At fair value through profit or loss	FVTPL	3				3		3
Derivative financial assets								
Derivatives without a hedging relationship	FVTPL	1,239				1,239		1,239
Of which: termination rights embedded in bonds issued	FVTPL	117				117		117
Of which: energy forward agreements	FVTPL	204				204		204
Of which: options received from third parties for the purchase or sale of shares in subsidiaries and associates	FVTPL	402				402		402
Derivatives with a hedging relationship	n.a.	1,034			1,034	0		1,034
Lease assets	n.a.	205					205	
Cash and cash equivalents and trade receivables and other financial assets directly associated with non-current assets and disposal groups held for sale	AC	75	75					
Equity instruments within non-current assets and disposal groups held for sale	FVOCI	0	0	0				0

[a] For energy forward agreements embedded in contracts and options received from third parties for the purchase or sale of shares in subsidiaries and associates, please refer to the detailed comments in the following section.

[b] The practical expedient under IFRS 7.29a was applied for disclosures on specific fair values.

millions of €

	Measurement category in accordance with IFRS 9	**Carrying amount Dec. 31, 2022**	**Amounts recognized in the statement of financial position in accordance with IFRS 9**				Amounts recognized in the statement of financial position in accordance with IFRS 16	**Fair value Dec. 31, 2022[b]**
			Amortized cost	Fair value through other comprehensive income without recycling to profit or loss	Fair value through other comprehensive income with recycling to profit or loss	Fair value through profit or loss[a]		
Liabilities								
Trade payables	AC	12,035	12,035					
Bonds and other securitized liabilities	AC	93,802	93,802					87,642
Liabilities to banks	AC	4,122	4,122					3,926
Liabilities with the right of creditors to priority repayment in the event of default	AC	2,924	2,924					2,799
Other interest-bearing liabilities	AC	7,526	7,526					7,311
Of which: collateral received	AC	156	156					
Liabilities from deferred interest	AC	999	999					
Other non-interest-bearing liabilities	AC	769	769					
Of which: puttable shares of non-controlling interests in consolidated partnerships	AC	13	13					
Lease liabilities	n.a.	38,792					38,792	
Derivative financial liabilities								
Derivatives without a hedging relationship	FVTPL	368				368		368
Of which: energy forward agreements	FVTPL	59				59		59
Derivatives with a hedging relationship	n.a.	2,521			44	2,477		2,521
Trade payables and other financial liabilities directly associated with non-current assets and disposal groups held for sale	AC	2,431	2,431					
Of which: aggregated by measurement category in accordance with IFRS 9								
Assets								
Financial assets at amortized cost	AC	19,105	19,105					6,347
Financial assets at fair value through other comprehensive income with recycling to profit or loss	FVOCI	9,841			9,841			9,841
Financial assets at fair value through other comprehensive income without recycling to profit or loss	FVOCI	446		446				446
Financial assets at fair value through profit or loss	FVTPL	1,888				1,888		1,888
Liabilities								
Financial liabilities at amortized cost	AC	124,607	124,607	0	0	0	0	101,678
Financial liabilities at fair value through profit or loss	FVTPL	368				368		368

[a] For energy forward agreements embedded in contracts and options received from third parties for the purchase or sale of shares in subsidiaries and associates, please refer to the detailed comments in the following section.

[b] The practical expedient under IFRS 7.29a was applied for disclosures on specific fair values.

millions of €

	Measurement category in accordance with IFRS 9	Carrying amount Dec. 31, 2021	Amounts recognized in the statement of financial position in accordance with IFRS 9				Amounts recognized in the statement of financial position in accordance with IFRS 16	Fair value Dec. 31, 2021[b]
			Amortized cost	Fair value through other comprehensive income without recycling to profit or loss	Fair value through other comprehensive income with recycling to profit or loss	Fair value through profit or loss[a]		
Assets								
Cash and cash equivalents	AC	7,617	7,617					
Trade receivables								
At amortized cost	AC	5,814	5,814					
At fair value through other comprehensive income	FVOCI	9,486			9,486			9,486
Other financial assets								
Originated loans and other receivables								
At amortized cost	AC	5,224	5,224					5,252
Of which: collateral paid	AC	589	589					
Of which: publicly funded projects	AC	1,794	1,794					
At fair value through other comprehensive income	FVOCI	0			0			0
At fair value through profit or loss	FVTPL	233				233		233
Equity instruments								
At fair value through other comprehensive income	FVOCI	437		437				437
At fair value through profit or loss	FVTPL	3				3		3
Derivative financial assets								
Derivatives without a hedging relationship	FVTPL	1,202				1,202		1,202
Of which: termination rights embedded in bonds issued	FVTPL	464				464		464
Of which: energy forward agreements	FVTPL	191				191		191
Of which: options received from third parties for the purchase or sale of shares in subsidiaries and associates	FVTPL	264				264		264
Derivatives with a hedging relationship	n.a.	1,560			364	1,196		1,560
Lease assets	n.a.	228					228	
Cash and cash equivalents and trade receivables and other financial assets directly associated with non-current assets and disposal groups held for sale	AC	428	428					
Equity instruments within non-current assets and disposal groups held for sale	FVOCI	29		29				29

[a] For energy forward agreements embedded in contracts and options received from third parties for the purchase or sale of shares in subsidiaries and associates, please refer to the detailed comments in the following section.

[b] The practical expedient under IFRS 7.29a was applied for disclosures on specific fair values.

millions of €

			Amounts recognized in the statement of financial position in accordance with IFRS 9					
	Measurement category in accordance with IFRS 9	Carrying amount Dec. 31, 2021	Amortized cost	Fair value through other comprehensive income without recycling to profit or loss	Fair value through other comprehensive income with recycling to profit or loss	Fair value through profit or loss[a]	Amounts recognized in the statement of financial position in accordance with IFRS 16	Fair value Dec. 31, 2021[b]
Liabilities								
Trade payables	AC	10,452	10,452					
Bonds and other securitized liabilities	AC	93,857	93,857					103,397
Liabilities to banks	AC	4,003	4,003					4,090
Liabilities with the right of creditors to priority repayment in the event of default	AC	3,248	3,248					3,389
Other interest-bearing liabilities	AC	7,826	7,826					7,886
Of which: collateral received	AC	1,616	1,616					
Liabilities from deferred interest	AC	1,012	1,012					
Other non-interest-bearing liabilities	AC	816	816					
Of which: puttable shares of non-controlling interests in consolidated partnerships	AC	185	185					
Lease liabilities	n.a.	33,133					33,133	
Derivative financial liabilities								
Derivatives without a hedging relationship	FVTPL	586				586		586
Of which: energy forward agreements	FVTPL	7				7		7
Derivatives with a hedging relationship	n.a.	118			107	11		118
Trade payables and other financial liabilities directly associated with non-current assets and disposal groups held for sale	AC	1,086	1,086					
Of which: aggregated by measurement category in accordance with IFRS 9								
Assets								
Financial assets at amortized cost	AC	19,083	19,083					5,252
Financial assets at fair value through other comprehensive income with recycling to profit or loss	FVOCI	9,486			9,486			9,486
Financial assets at fair value through other comprehensive income without recycling to profit or loss	FVOCI	466		466				466
Financial assets at fair value through profit or loss	FVTPL	1,438				1,438		1,438
Liabilities								
Financial liabilities at amortized cost	AC	122,301	122,301	0	0	0	0	118,762
Financial liabilities at fair value through profit or loss	FVTPL	586				586		586

[a] For energy forward agreements embedded in contracts and options received from third parties for the purchase or sale of shares in subsidiaries and associates, please refer to the detailed comments in the following section.

[b] The practical expedient under IFRS 7.29a was applied for disclosures on specific fair values.

Trade receivables include receivables amounting to EUR 2.8 billion (December 31, 2021: EUR 2.8 billion) due in more than one year. The fair value generally equals the carrying amount.

Disclosures on fair value

When determining the fair value, it is important to maximize the use of current inputs observable in liquid markets for the financial instrument in question and minimize the use of other inputs (e.g., historical prices, prices for similar instruments, prices on illiquid markets). A three-level measurement hierarchy is defined for these purposes. If prices quoted in liquid markets are available at the reporting date for the respective financial instrument, these will be used unadjusted for the measurement (Level 1 measurement). Other input parameters are then irrelevant for the measurement. One such example is shares and bonds that are actively traded on a stock exchange. If quoted prices on liquid markets are not available at the reporting date for the respective financial instrument, but the instrument can be measured using other inputs that are observable on the market at the reporting date, a Level 2 measurement will be applied. The conditions for this are that no major adjustments have been made to the observable inputs and no unobservable inputs are used. Examples of Level 2 measurements are collateralized interest rate swaps, currency forwards, and cross-currency swaps that can be measured using current interest rates or exchange rates. If the conditions for a Level 1 or Level 2 measurement are not met, a Level 3 measurement is applied. In such cases, major adjustments must be made to observable inputs or unobservable inputs must be used.

Financial instruments not measured at fair value, the fair values of which are disclosed nevertheless

millions of €

	Dec. 31, 2022				Dec. 31, 2021			
	Level 1	Level 2	Level 3[a]	Total	Level 1	Level 2	Level 3[a]	Total
Assets								
Originated loans and receivables		6,347		**6,347**		5,252		**5,252**
Liabilities								
Financial liabilities measured at amortized cost	82,907	18,654	117	**101,678**	94,637	23,661	464	**118,762**
Of which: bonds and other securitized liabilities	80,112	7,417	113	**87,642**	91,260	11,685	452	**103,397**
Of which: liabilities to banks		3,926		**3,926**		4,090		**4,090**
Of which: liabilities with the right of creditors to priority repayment in the event of default	2,795		4	**2,799**	3,377		12	**3,389**
Of which: other interest-bearing liabilities		7,311		**7,311**		7,886		**7,886**

[a] Separation of embedded derivatives; the fair value of the entire instrument must be categorized as Level 1.

Financial instruments measured at fair value

millions of €

	Dec. 31, 2022				Dec. 31, 2021			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets								
Trade receivables								
At fair value through other comprehensive income			9,841	**9,841**			9,486	**9,486**
At fair value through profit or loss			0	**0**			0	**0**
Other financial assets – Originated loans and other receivables								
At fair value through other comprehensive income				**0**			0	**0**
At fair value through profit or loss	206	0	440	**646**	145	77	10	**232**
Equity instruments								
At fair value through other comprehensive income	9		437	**446**	29		437	**466**
At fair value through profit or loss			3	**3**			3	**3**
Derivative financial assets								
Derivatives without a hedging relationship		884	355	**1,239**		286	916	**1,202**
Derivatives with a hedging relationship		1,034		**1,034**		1,560		**1,560**
Liabilities								
Derivative financial liabilities								
Derivatives without a hedging relationship		309	59	**368**		579	7	**586**
Derivatives with a hedging relationship		2,521		**2,521**		118		**118**

Of the equity instruments measured at fair value through other comprehensive income and recognized under other financial assets, the instruments presented in the different levels constitute separate classes of financial instruments. In each case, the fair values of the total volume of equity instruments recognized as Level 1 are the price quotations at the reporting date.

The listed bonds and other securitized liabilities are assigned to Level 1 or Level 2 depending on the market liquidity of the relevant instrument. Consequently, issues denominated in euros or U.S. dollars with relatively large nominal amounts are to be classified as Level 1, the rest as Level 2. The fair values of the instruments assigned to Level 1 equal the nominal amounts multiplied by the price quotations at the reporting date. The fair values of the instruments assigned to Level 2 are calculated as the present values of the payments associated with the debts, based on the applicable yield curve and Deutsche Telekom's credit spread curve for specific currencies.

The fair values of liabilities to banks and other interest-bearing liabilities are calculated as the present values of the payments associated with the debts, based on the applicable yield curve and Deutsche Telekom's credit spread curve for specific currencies. The fair values of trade receivables and of originated loans and other receivables are calculated as the present values of the payments associated with the receivables, based on the applicable yield curve and the credit risk of the debtors.

Since there are no market prices available for the derivative financial instruments in the portfolio assigned to Level 2 due to the fact that they are not listed on the market, the fair values are calculated using standard financial valuation models, based entirely on observable inputs. The fair value of derivatives is the price that Deutsche Telekom would receive or have to pay if the financial instrument were transferred at the reporting date. Interest rates of contractual partners relevant as of the reporting date are used in this respect. The middle rates applicable as of the reporting date are used as exchange rates. In the case of interest-bearing derivatives, a distinction is made between the clean price and the dirty price. In contrast to the clean price, the dirty price also includes the interest accrued. The fair values carried correspond to the full fair value or the dirty price.

The equity instruments measured at fair value through other comprehensive income comprise a large number of investments in strategic, unlisted individual positions. Deutsche Telekom considers the chosen measurement through other comprehensive income without recycling to profit or loss to be appropriate because there are no plans to use the investments for short-term profit-taking. At the date of disposal of an investment, the total cumulative gain or loss is reclassified to retained earnings. Acquisitions and disposals are based on business policy investment decisions.

Investments in equity instruments at fair value through other comprehensive income

millions of €

	2022	2021
Fair value as of December 31	**446**	**466**
Dividends recognized in profit/loss	0	0
Of which: on investments divested in the reporting period	0	0
Of which: on investments still held at the reporting date	0	0
Fair value at the derecognition date of instruments divested in the reporting period	34	249
Cumulative gains reclassified in the reporting period from other comprehensive income to retained earnings	0	121
Of which: from the disposal of investments	0	121
Cumulative losses reclassified in the reporting period from other comprehensive income to retained earnings	12	1
Of which: from the disposal of investments	12	1

Development of the carrying amounts of the financial assets and financial liabilities assigned to Level 3

millions of €

	Equity instruments at fair value through other comprehensive income	Derivative financial assets at fair value through profit or loss: termination rights embedded in bonds issued	Derivative financial assets at fair value through profit or loss: stock options[a]	Derivative financial assets at fair value through profit or loss: energy forward agreements	Derivative financial liabilities at fair value through profit or loss: energy forward agreements	Derivative financial assets at fair value through profit or loss: put option for shares[b]	Originated loans and other receivables at fair value through profit or loss: contingent consideration receivable
Carrying amount as of January 1, 2022	**437**	**464**	**222**	**191**	**(7)**	**22**	**0**
Additions (including first-time classification as Level 3)	62	10	0	0	0	0	455
Decreases in fair value recognized in profit/loss (including losses on disposal)	0	(438)	0	(167)	(57)	(12)	(41)
Increases in fair value recognized in profit/loss (including gains on disposal)	0	60	548	200	7	102	1
Decreases in fair value recognized directly in equity	(148)	0	0	0	0	0	0
Increases in fair value recognized directly in equity	112	0	0	0	0	0	0
Disposals (including last classification as Level 3)[c]	(29)	0	(770)	(44)	(3)	(112)	0
Currency translation effects recognized directly in equity	2	21	0	24	1	0	0
Carrying amount as of December 31, 2022	**436**	**117**	**0**	**204**	**(59)**	**0**	**415**

[a] The stock options were reclassified to Level 2 in the reporting period. For more details, please refer to the explanations below.

[b] The put option was derecognized in the reporting period. For more details, please refer to the explanations below.

[c] The disposals of stock options include the carrying amount of the options transferred from Level 3 (EUR 308 million).

The equity instruments assigned to Level 3 that are measured at fair value through other comprehensive income and carried under other financial assets are equity investments with a carrying amount of EUR 436 million measured using the best information available at the reporting date. As a rule, Deutsche Telekom considers transactions involving shares in those companies to have the greatest relevance. Transactions involving shares in comparable companies are also considered. The proximity of the relevant transaction to the reporting date, and the question of whether it was conducted at arm's length, are relevant for deciding which information is used for the measurement. Furthermore, the degree of similarity between the object being measured and comparable companies must be taken into consideration. Based on Deutsche Telekom's own assessment, the fair values of the equity investments at the reporting date could be determined with sufficient reliability. For the development of the carrying amounts in the reporting period, please refer to the table above. At the reporting date, no investments were held for sale. In the case of investments with a carrying amount of EUR 172 million, transactions involving shares in these companies took place at arm's length sufficiently close to the reporting date, which is why the share prices agreed in the transactions were to be used without adjustment for the measurement as of December 31, 2022. In the case of investments with a carrying amount of EUR 7 million, an analysis of operational indicators (especially revenue, EBIT, and liquidity) revealed that the carrying amounts were equivalent to current fair values. Due to better comparability, previous arm's length transactions involving shares in these companies are preferable to more recent transactions involving shares in similar companies. In the case of investments with a carrying amount of EUR 234 million, for which the last arm's length transactions relating to shares in these companies took place further in the past, a measurement performed more recently relating to shares in similar companies provides the most reliable representation of the fair values. Here, multiples to the reference variable of expected revenue (ranging between 2.8 and 16.1) were applied and a range of equally distributed percentiles in intervals of 16.7 % around the median were taken as a basis. For each investment, the appropriate percentile was used depending on the specific circumstances. If other values had been used for the multiples and for the expected revenue amounts, the calculated fair values would have been different. These hypothetical deviations (sensitivities) are shown in the table below. In addition, non-material individual items with a carrying amount of EUR 23 million when translated into euros are included with differences in value of minor relevance.

For the development of the carrying amounts in the reporting year, please refer to the table above.

The derivatives without a hedging relationship assigned to Level 3 and carried under derivative financial assets relate to options embedded in bonds issued by T-Mobile US with a carrying amount of EUR 117 million when translated into euros. The options, which can be exercised by T-Mobile US at any time, allow early redemption of the bonds at fixed exercise prices. Observable market prices are available regularly and also at the reporting date for the bonds as entire instruments, but not for the options embedded therein. The termination rights are measured using an option pricing model. Historical interest rate volatilities of bonds issued by T-Mobile US and comparable issuers are used for the measurement because these provide a more reliable estimate at the reporting date than current market interest rate volatilities. The spread curve, which is also unobservable, was derived on the basis of current market prices of bonds issued by T-Mobile US and debt instruments of comparable issuers. Risk-free interest rates and spreads were simulated separately from each other. At the current reporting date, the following interest rate volatility and spreads were used for the various rating levels of the bonds:

Interest rate volatilities and spreads used by rating level

%	Interest volatility (absolute figure)	Spread
BBB+	0.1 %–0.2 %	0.3 %–1.4 %
BBB-	0.2 %–0.5 %	0.6 %–2.4 %
BB+/BB	0.3 %–0.7 %	1.1 %–3.9 %

For the mean reversion input, which is unobservable, 3 % was used. In our opinion, the values used constitute the best estimate in each case. If other values had been used for interest rate volatility, spread curve, or mean reversion, the calculated fair values would have been different. These hypothetical deviations (sensitivities) are shown in the table below. If the risk-free interest rate had been 50 basis points higher (lower) at the reporting date, the fair value of the options would have been EUR 36 million lower (EUR 48 million higher). In the reporting period, a net expense of EUR 378 million when translated into euros was recognized under the Level 3 measurement in other financial income/expense for unrealized losses for the options in the portfolio at the reporting date. In the reporting period, no option was exercised. Please refer to the table above for the development of the carrying amounts in the reporting period. The changes in value recognized in profit or loss in the reporting period were mainly attributable to fluctuations in the interest rates and historical interest rate volatilities in absolute terms that are relevant for measurement. Due to their distinctiveness, these instruments constitute a separate class of financial instruments.

Sensitivities[a] of the carrying amounts of the financial assets and financial liabilities assigned to Level 3 depending on unobservable inputs

millions of €

	Equity instruments at fair value through other comprehensive income	Derivative financial assets at fair value through profit or loss: termination rights embedded in bonds issued	Derivative financial assets at fair value through profit or loss: energy forward agreements	Derivative financial liabilities at fair value through profit or loss: energy forward agreements	Originated loans and other receivables at fair value through profit or loss: contingent consideration receivable
Multiple next-level-up quantile	80				
Multiple next-level-down quantile	(55)				
Expected revenues +10 %	20				
Expected revenues -10 %	(21)				
Interest rate volatility[b] +10 %		3			
Interest rate volatility[b] -10 %		(2)			
Spread curve[c] +50 basis points		(43)			(9)
Spread curve[c] -50 basis points		72			9
Mean reversion[d] +100 basis points		(1)			
Mean reversion[d] -100 basis points		2			
Future energy prices +10 %			41	10	
Future energy prices -10 %			(51)	(10)	
Future energy output +5 %			31	3	
Future energy output -5 %			(41)	(3)	
Future prices for renewable energy credits[e] +100 %			4	2	
Future prices for renewable energy credits[e] from zero			(14)	(2)	
Planned fiber-optic build-out is completed one year earlier than expected					18
Planned fiber-optic build-out is completed one year later than expected					(17)
Actual fiber-optic build-out is 5 % higher than planned each year					41
Actual fiber-optic build-out is 5 % lower than planned each year					(41)

[a] Change in the relevant input parameter assuming all other input parameters are unchanged.

[b] Interest rate volatility shows the magnitude of fluctuations in interest rates over time (relative change). The larger the fluctuations, the higher the interest rate volatility.

[c] The spread curve shows, for the respective maturities, the difference between the interest rates payable by the debtor and the risk-free interest rates. A minimum of zero was set for the spread curve for the sensitivity calculation, i.e., negative spreads are not applicable.

[d] Mean reversion describes the assumption that, after a change, an interest rate will revert to its average over time. The higher the selected value (mean reversion speed), the faster the interest rate will revert to its average in the measurement model.

[e] Renewable energy credits is the term used for U.S. emission certificates.

With a carrying amount of EUR 200 million when translated into euros, the derivatives without a hedging relationship assigned to Level 3 and carried under derivative financial assets relate to energy forward agreements embedded in contracts entered into by T-Mobile US. The same applies to derivative financial liabilities with a carrying amount of EUR 55 million when translated into euros. These agreements consist of two components: the energy forward agreement and the acquisition of renewable energy credits by T-Mobile US. In the case of one energy forward agreement, commercial operation is set to begin in 2024; with the others, it has already begun. Under the energy forward agreements, which are accounted for separately as derivatives, T-Mobile US receives variable amounts based on the actual energy output and the then current energy prices, and pays fixed amounts per unit of energy generated from the start of commercial operations throughout the term of the contract. The energy forward agreements are measured using valuation models because no observable market prices are available. The value of the derivatives is significantly influenced by the future energy output, the future energy prices on the relevant markets, and the future prices of renewable energy credits. The main contract parameters, including the assumptions made for unobservable parameters and periods, are set out in the following table. In our opinion, these assumptions made constitute the best estimate in each case. In the view of T-Mobile US, the contracts were entered into at current market conditions, and the most appropriate parameters for the unobservable inputs were used for measurement purposes. The transaction price at inception was zero in each case. Since the unobservable inputs have a significant influence on the measurement of the derivatives, the respective amount resulting from initial measurement (day 1 gain) – with the exception of the agreements concluded by Sprint that are explained below – was deferred on initial recognition. Instead, these day 1 gains are amortized in profit or loss on a straight-line basis over the period of commercial energy production. This amortization adjusts the effects from measuring the derivatives in each accounting period using the respective valuation models and updated parameters. All amounts from the measurement of the derivatives are presented in net terms per contract in the statement of financial position (derivative financial assets/liabilities) and in the income statement (other operating income/expenses). Sprint also has agreements of this kind in its portfolio. These were concluded before the business combination with T-Mobile US and, for these agreements too, unobservable inputs have a material influence on the measurement of the derivatives. However, under the requirements for business combinations, the respective amounts resulting from the measurement are recognized as derivative financial assets, as a result of which there are no amounts yet to be amortized for these agreements. On the following reporting dates, the effects from the periodic measurement of the derivatives will be recorded in full in the income statement (other operating expenses or other operating income). At the reporting date, the calculated fair value from Deutsche Telekom's perspective for all energy forward agreements described above is positive and amounts to EUR 288 million when translated into euros. If other values had been used for future energy prices, future energy output, or future prices of renewable energy credits, the calculated fair values would have been different. These hypothetical deviations (sensitivities) are shown in the table above. In the reporting period, net expense of EUR 7 million when translated into euros was recognized under the Level 3 measurement in other operating income/expense for unrealized losses for the derivatives for all the above energy forward agreements. Please refer to the corresponding table for the development of the carrying amounts in the reporting period. The market-price changes in the reporting period were largely attributable to changes in observable and unobservable energy prices and to interest rate effects. In addition, an impairment loss was recognized for a project which has not yet begun commercial operations because it is expected that the contractual conditions will have to be amended in favor of the other contracting party in order to ensure the realization of the project. The development of the day 1 gain yet to be amortized in the income statement in the reporting period is shown in the following table. The straight-line amortization of the day 1 gains through profit or loss over the period of commercial energy production amounts to a total of EUR 13 million per year when translated into euros. In addition, in the reporting year, similar energy forward agreements were concluded in Europe from which, however, no notable effects are expected. As of December 31, 2022, derivative financial assets of EUR 4 million when translated into euros and derivative financial liabilities of EUR 3 million when translated into euros were recognized for these agreements. Due to their distinctiveness, the energy forward agreements constitute a separate class of financial instruments.

millions of €

	United States
Term of the contract from the start of commercial operation in years	12 to 15
End of the term of contracts for which commercial operation has already begun	2029 to 2035
Expected energy output in GWh per year	4,057
Expected energy prices per MWh for the unobservable portion of the term in €	
On-peak (i.e., times of relatively high energy demand) in €	29 to 89
Off-peak (i.e., times of relatively low energy demand) in €	24 to 74
On-peak/off-peak ratio	52 %
Length of time in years, for which energy prices are regularly observable	up to 10
Length of time in years, for which the prices of renewable energy credits are regularly observable	around 3

The derivative financial assets include acquired stock options to purchase shares in T-Mobile US with a carrying amount of EUR 368 million when translated into euros. The stock options, which can be exercised at any time, mature in 2024, can be exercised partially at fixed and partially at variable purchase prices, and are measured using an option pricing model. Due to a contractual adjustment in the reporting period, no share price volatilities calculated based on historic figures are now included in the measurement. In addition to the share price already observable on the market and the risk-free interest rates, only observable current market volatilities are now used. The figure used for the share price volatility at the current reporting date was 29.1 %. Due to the exclusive use of observable input parameters, the options had to be transferred from Level 3 to Level 2 of the fair value hierarchy in the reporting period. Due to their distinctiveness, these instruments constitute a separate class of financial instruments. The transaction price at inception was zero. Since the unobservable inputs had a material influence on the measurement of the options, the fair value resulting from initial measurement of EUR 1,005 million when translated into euros (before deduction of transaction costs) was not immediately recognized. Instead, this amount was previously amortized in profit or loss over the lifetime of the options. With the assignment of the options to Level 2 of the fair value hierarchy, the remaining measurement amount not yet amortized of EUR 84 million had to be recognized in full in profit or loss. This amortization adjusted the effects from measuring the options on an ongoing basis using the valuation model and updated parameters. All amounts from the measurement of the options are presented in net terms in the statement of financial position (other derivative financial assets) and in the income statement (other financial income/expense). The market-price changes in the reporting period are largely attributable to fluctuations in the share price, the risk-free interest rate, and the volatility. The stock options were partially exercised in the reporting period. The development of the carrying amount is shown in the table above. The fair value of the stock options did not change materially between June 30, 2022 and the date of their derecognition, and the measurement effect resulting from their reclassification was immaterial. The development of the amount to be amortized in the income statement in the reporting period is shown in the following table.

For further information on the stock options, please refer to the section "Other financial assets."

The put option acquired by DIV II in 2021 to purchase shares in Cellnex Netherlands B.V. was no longer recognized as a derivative financial asset as of the reporting date. This is because, following the loss of control over DIV II on August 2, 2022, Deutsche Telekom deconsolidated that entity, through which the shares in Cellnex Netherlands B.V. had previously been indirectly included in the consolidated financial statements using the equity method. The fair value of the put option did not change materially between June 30, 2022 and the date of derecognition. The development of the carrying amount of the put option is shown in the above table. The development of the amount to be amortized in the income statement in the reporting period is shown in the following table.

For further information on the admission of new limited partners to the infrastructure fund (DIV II), please refer to the section "Changes in the composition of the Group and other transactions."

Development of the not yet amortized amounts

millions of €

	Energy forward agreements[a]	Stock options[b]	Put option for shares[c]
Measurement amounts on initial recognition	**173**	**1,005**	**129**
Measurement amounts on initial recognition (additions during the reporting period)	0	0	0
Measurement amounts amortized in profit or loss in prior periods	(29)	(328)	(19)
Measurement amounts amortized in profit or loss in the current reporting period	(11)	(122)	(19)
Currency translation adjustments	10	(49)	0
Disposals in prior periods	0	(372)	0
Disposals in the current reporting period	0	(134)	(91)
Measurement amounts not amortized as of December 31, 2022	**143**	**0**	**0**

[a] For more details, please refer to the explanations above.
[b] The stock options were reclassified to Level 2 in the reporting period. For more details, please refer to the explanations above.
[c] The put option was derecognized in the reporting period. For more details, please refer to the explanations above.

The financial assets assigned to Level 3 (originated loans and other receivables) include the contingent consideration receivable from the sale of a 50 % stake in GlasfaserPlus with a carrying amount of EUR 415 million, which arises in stages upon achieving certain fiber-optic build-out milestones and is measured at fair value through profit or loss. Deutsche Telekom measures this receivable on the basis of GlasfaserPlus' current build-out plans. At the current reporting date, it can be assumed that payments will fall due from 2025 to 2029. The spread of the debtor IFM constitutes an unobservable input. At the current reporting date, values of between 1.3 % and 1.7 % were used for the discounting of the individual payments. In our opinion, the assumptions used constitute the best estimate in each case. If other assumptions had been used for the amount and due dates of the payments and for the spread, the calculated fair value would have been different. These hypothetical deviations (sensitivities) are shown in the table above. In the reporting period, a net expense of EUR 40 million was recognized under the Level 3 measurement of the receivable in other operating income/expense for unrealized discounting effects. Please refer to the table above for the development of the carrying amounts in the reporting period. The market-price change in the reporting period is largely attributable to an increase in the interest rates that are relevant for measurement. Due to its distinctiveness, this instrument constitutes a separate class of financial instruments. The other financial assets assigned to Level 3 (originated loans and other receivables) with a carrying amount of EUR 25 million relate to immaterial items for which no significant volatility in fair value is to be expected.

For further information on the joint venture GlasfaserPlus with IFM, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

For the trade receivables measured at fair value through other comprehensive income assigned to Level 3 and for the originated loans and other receivables measured at fair value through profit or loss, the main factor in determining fair value is the credit risk of the relevant counterparties. If the default rates applied as of the reporting date had been 1 % higher (lower) with no change in the reference variables, the fair values of the instruments would have been 1 % lower (higher). The financial assets assigned to Level 3 include trade receivables measured at fair value through other comprehensive income, for which the credit risk of customers constitutes an unobservable input for the measurement, with a carrying amount of EUR 9,841 million (December 31, 2021: EUR 9,486 million) when translated into euros. As a rule, a credit scoring model is used for receivables paid in installments. The cash flows are discounted on the basis of the weighted average of the original effective interest rates of the financial assets in the relevant portfolio. A weighted average credit-risk spread of 6.28 % (December 31, 2021: 4.57 % %) was applied to the respective receivables portfolios at the reporting date. The credit-risk spreads applied are derived from the expected future credit loss of the relevant portfolios and are updated on an ongoing basis. Changes in the fair value of these trade receivables are caused mainly by changes in observable Level 2 inputs (in particular market interest rates). For information on the amounts recognized in shareholders' equity and in profit/loss, please refer to the table "Net gain/loss by measurement category."

The financial assets measured at fair value through profit or loss and assigned to Level 3 include additional options acquired from third parties for the purchase of company shares, with a carrying amount of EUR 34 million. No notable fluctuations in value are expected from these individual items. Due to their distinctiveness, these instruments each constitute a separate class of financial instruments.

Net gain/loss by measurement category

millions of €

		Recognized in profit or loss from interest and dividends	Recognized in profit or loss from subsequent measurement			Recognized directly in equity from subsequent measurement	Recognized in profit or loss from derecognition	Net gain (loss)
			At fair value	Currency translation	Impairments/ allowances	At fair value[a]		
Debt instruments measured at amortized cost	2022	42	n.a.	612	(316)	n.a.	(24)	**314**
	2021	176	n.a.	1,140	(288)	n.a.	(123)	**905**
Debt instruments measured at fair value through profit or loss	2022	61	(40)	n.a.	n.a.	n.a.	(33)	**(12)**
	2021	11	0	n.a.	n.a.	n.a.	3	**14**
Debt instruments measured at fair value through other comprehensive income	2022	0	n.a.	n.a.	(913)	(22)	(123)	**(1,058)**
	2021	0	n.a.	n.a.	(351)	(80)	(63)	**(494)**
Equity instruments measured at fair value through profit or loss	2022	0	0	n.a.	n.a.	n.a.	0	**0**
	2021	0	0	n.a.	n.a.	n.a.	0	**0**
Equity instruments measured at fair value through other comprehensive income	2022	0	n.a.	n.a.	n.a.	(46)	n.a.	**(46)**
	2021	0	n.a.	n.a.	n.a.	112	n.a.	**112**
Derivatives measured at fair value through profit or loss	2022	n.a.	1,022	n.a.	n.a.	n.a.	n.a.	**1,022**
	2021	n.a.	(38)	n.a.	n.a.	n.a.	n.a.	**(38)**
Financial liabilities measured at amortized cost	2022	(3,828)	n.a.	(829)		n.a.	n.a.	**(4,657)**
	2021	(3,587)	n.a.	(1,417)	(41)	n.a.	n.a.	**(5,045)**
	2022	**(3,724)**	**982**	**(217)**	**(1,229)**	**(68)**	**(181)**	**(4,437)**
	2021	**(3,400)**	**(38)**	**(278)**	**(680)**	**32**	**(182)**	**(4,546)**

[a] The amount reported under debt instruments measured at fair value through other comprehensive income is the net amount after deduction of the effects recognized in profit or loss for impairment losses in the amount of EUR -1,036 million.

Interest from financial instruments is recognized in finance costs, dividends in other financial income/expense (income from investments).

For further information, please refer to Note 29 "Finance costs" and Note 31 "Other financial income/expense."

The other components of the net gain/loss are generally recognized in other financial income/expense, except for allowances on trade receivables that are classified as debt instruments measured at amortized cost and debt instruments measured at fair value through other comprehensive income, which are reported under other operating expenses. The loss/gain from energy forward agreements and from options received from third parties for the purchase or sale of shares in associates are reported under other operating expenses/other operating income.

For further information, please refer to Note 2 "Trade receivables."

The net gain from the subsequent measurement of financial instruments allocated to the measurement category at fair value through profit or loss (EUR 1,022 million) also includes interest and currency translation effects. The net currency translation gains on financial assets classified as debt instruments measured at amortized cost (EUR 612 million) are primarily attributable to the Group-internal transfer of foreign-currency loans taken out by Deutsche Telekom's financing company, Deutsche Telekom International Finance B.V., on the capital market. These are offset by corresponding currency translation losses on capital market liabilities of EUR 829 million. These include currency translation gains from derivatives that Deutsche Telekom used as hedging instruments for hedge accounting in foreign currency (EUR 113 million, 2021: EUR 446 million). Finance costs from financial liabilities measured at amortized cost (expense of EUR 3,828 million) primarily consist of interest expense on bonds and other (securitized) financial liabilities. The item also includes interest expense from the addition of accrued interest and interest income from interest discounted from trade payables. However, it does not include the interest expense and interest income from interest rate derivatives Deutsche Telekom used in the reporting year to hedge the fair value risk of financial liabilities.

For further information, please refer to Note 29 "Finance costs."

Principles of risk management. Deutsche Telekom is exposed in particular to risks from changes in exchange rates, interest rates, and market prices that affect its assets, liabilities, and forecast transactions. Financial risk management aims to limit these market risks through ongoing operational and finance activities. Selected derivative and non-derivative hedging instruments are used for this purpose, depending on the risk assessment. However, Deutsche Telekom only hedges the risks that affect the Group's cash flow. Derivatives are exclusively used as hedging instruments, i.e., not for trading or other speculative purposes. To reduce the credit risk, hedging instruments are generally only concluded with leading financial institutions whose credit rating is at least BBB+/Baa1. In addition, the credit risk for derivatives with a positive market value is generally minimized through collateral agreements with all core banks. Furthermore, the limits for deposits are also set and monitored on a daily basis depending on the rating, share price performance, and credit default swap level of the respective counterparty.

The fundamentals of Deutsche Telekom's financial policy are established by the Board of Management and overseen by the Supervisory Board. Group Treasury is responsible for implementing the financial policy and for ongoing risk management. Certain transactions require the prior approval of the Board of Management, which is also regularly briefed on the severity and amount of the current risk exposure.

Group Treasury regards effective management of the market risk as one of its main tasks. The main risks relate to foreign currencies and interest rates.

Currency risks. Deutsche Telekom is exposed to currency risks from its investing, financing, and operating activities. Risks from foreign currencies are hedged to the extent that they influence the Group's cash flows. Foreign-currency risks that do not influence the Group's cash flows (i.e., the risks resulting from the translation of assets and liabilities of foreign operations into the Group's reporting currency) are generally not hedged, however. Deutsche Telekom may nevertheless also hedge this foreign-currency risk under certain circumstances.

Foreign-currency risks in the area of investment result, for example, from the acquisition and disposal of investments in foreign companies. Deutsche Telekom hedges these risks. If the risk position exceeds EUR 100 million, the Board of Management must make a special decision on how the risk shall be hedged. If the risk position is below EUR 100 million, Group Treasury performs the currency hedging itself. At the reporting date, Deutsche Telekom was not exposed to any significant risks from foreign-currency transactions in the field of investments.

Foreign-currency risks in the financing area are caused by financial liabilities in foreign currency and loans in foreign currency that are issued to Group entities for financing purposes. Group Treasury hedges these risks. Cross-currency swaps and currency derivatives are used to convert financial obligations and intragroup loans denominated in foreign currencies into the Group entities' functional currencies.

At the reporting date, the foreign-currency liabilities for which currency risks were hedged mainly consisted of bonds in U.S. dollars and pounds sterling. On account of these hedging activities, Deutsche Telekom was not exposed to any significant currency risks in the area of financing at the reporting date.

The Group entities predominantly execute their operating activities in their respective functional currencies. Payments made in a currency other than the respective functional currency result in foreign-currency risks in the Group. These mainly relate to payments for telecommunications services (procurement of network technology and mobile communications equipment as well as payments to international telecommunications companies and for the provision of connection services) and IT services (procurement of IT hardware, software, and services). Deutsche Telekom generally uses currency derivatives for hedging purposes. On account of these hedging activities, Deutsche Telekom was not exposed to any significant short-term exchange rate risks from its operating activities at the reporting date.

For the presentation of market risks, IFRS 7 requires sensitivity analyses that show the effects of hypothetical changes of relevant risk variables on profit or loss and shareholders' equity. In addition to currency risks, Deutsche Telekom is exposed to interest rate risks and price risks in its investments. The periodic effects are determined by relating the hypothetical changes in the risk variables to the balance of financial instruments at the reporting date. It is assumed that the balance at the reporting date is representative for the year as a whole.

Currency risks as defined by IFRS 7 arise on account of financial instruments being denominated in a currency that is not the functional currency and being of a monetary nature; differences resulting from the translation of financial statements into the Group's presentation currency are not taken into consideration. Relevant risk variables are generally all non-functional currencies in which Deutsche Telekom has contracted financial instruments.

The currency sensitivity analyses are based on the following assumptions: major non-derivative monetary financial instruments (liquid assets, receivables, interest-bearing securities and/or debt instruments held, interest-bearing and non-interest-bearing liabilities, and lease liabilities) are either directly denominated in the functional currency or are transferred to the functional currency through the use of derivatives. Exchange rate fluctuations therefore have no effects on profit or loss, or shareholders' equity.

Equity instruments held are of a non-monetary nature and therefore are not exposed to a currency risk as defined by IFRS 7.

Interest income and interest expense from financial instruments are also either recorded directly in the functional currency or transferred to the functional currency using derivatives. For this reason, there can be no effects on the variables considered in this connection.

In the case of fair value hedges designated to hedge currency risks, the changes in the fair values of the hedged item and the hedging instrument attributable to changes in exchange rates balance out almost completely in the income statement in the same period. As a consequence, these financial instruments are not exposed to currency risks with an effect on profit or loss, or shareholders' equity, either.

Cross-currency swaps are always assigned to non-derivative hedged items, so these instruments do not have any currency effects, either.

Deutsche Telekom is therefore only exposed to currency risks from specific currency derivatives. Some of these are currency derivatives that are part of an effective cash flow hedge for hedging payment variability resulting from changes in exchange rates in accordance with IFRS 9. Volatility of exchange rates of the currencies on which these transactions are based affects the hedging reserves in shareholders' equity and the fair value of these hedging instruments. Others are currency derivatives that are neither part of one of the hedges defined in IFRS 9 nor part of a natural hedge. These derivatives are used to hedge planned transactions. Changes in exchange rates of the currencies on which such financial instruments are based affect other financial income or expense (net gain/loss from remeasurement of financial assets and liabilities to fair value).

If the euro had gained (lost) 10 % against all currencies at December 31, 2022, the hedging reserves in shareholders' equity and the fair values of the hedging instruments before taxes would have been EUR 11 million higher (lower) (December 31, 2021: EUR 13 million higher (lower)). The hypothetical effect of EUR 11 million on profit or loss primarily results from the currency sensitivities EUR/USD: EUR 13 million, EUR/GBP: EUR -5 million, and EUR/CHF: EUR 3 million. If the euro had gained (lost) 10 % against all currencies at December 31, 2022, other financial income and the fair value of the hedging instruments before taxes would have been EUR 54 million lower (higher) (December 31, 2021: EUR 31 million lower (higher)). The hypothetical effect of EUR -54 million on profit or loss primarily results from the currency sensitivities EUR/USD: EUR -126 million, EUR/PLN: EUR 23 million, and EUR/HUF: EUR 16 million.

Interest rate risks. Deutsche Telekom is exposed to interest rate risks, mainly in the euro zone and in the United States. The interest rate risks are managed as part of the interest rate management activities. For the debt position in euros a maximum variable percentage is set on an annual basis. The debt position of T-Mobile US in U.S. dollars is primarily determined through partially cancelable, fixed-income debt instruments. The composition of the liabilities portfolio (ratio of fixed to variable) is managed by issuing non-derivative financial instruments and, where necessary, also deploying derivative financial instruments.

Including derivative hedging instruments, an average of 44 % (2021: 46 %) of the debt position denominated in euros had a variable rate of interest in 2022. There were no significant fluctuations in the course of the reporting year. In U.S. dollars, the variable percentage – compared to 2021 – remained at 0 %, mainly due to the issuance of new fixed-income bonds by T-Mobile US.

Interest rate risks are presented by way of sensitivity analyses in accordance with IFRS 7. These show the effects of changes in market interest rates on interest payments, interest income and expense, other income components, and, if appropriate, shareholders' equity. The interest rate sensitivity analyses are based on the following assumptions: Changes in the market interest rates of non-derivative financial instruments with fixed interest rates only affect income if these are measured at their fair value. As such, all financial instruments with fixed interest rates that are carried at amortized cost are not subject to interest rate risk as defined in IFRS 7.

In the case of fair value hedges designated for hedging interest rate risks, the changes in the fair values of the hedged item and the hedging instrument attributable to changes in interest rates balance out almost completely in the income statement in the same period. This means that interest-rate-based changes in the measurement of the hedged item and the hedging instrument largely do not affect income and are therefore not subject to interest rate risk.

In the case of interest rate derivatives in fair value hedges, however, changes in market interest rates affect the amount of interest payments. As a consequence, they have an effect on interest income and are therefore included in the calculation of income-related sensitivities.

Changes in the market interest rate regarding financial instruments that were designated as hedging instruments in a cash flow hedge to hedge payment variability resulting from changes in interest rates affect the hedging reserve in shareholders' equity and are therefore taken into consideration in the equity-related sensitivity calculations.

Changes in market interest rates affect the interest income or expense of non-derivative variable-interest financial instruments, the interest payments of which are not designated as hedged items of cash flow hedges against interest rate risks. As a consequence, they are included in the calculation of income-related sensitivities.

In addition, changes in the market interest rate had an impact on the carrying amount of trade receivables recognized at fair value and originated loans and other receivables. However, this variability is not managed.

Changes in the market interest rate regarding interest rate derivatives (interest rate swaps, cross-currency swaps) that are not part of a hedging relationship as set out in IFRS 9 affect other financial income or expense and are therefore taken into consideration in the income-related sensitivity calculations. Currency derivatives are not exposed to interest rate risks and therefore do not affect the interest rate sensitivities.

If the market interest rates had been 100 basis points higher at December 31, 2022, profit or loss before taxes would have been EUR 270 million (December 31, 2021: EUR 272 million) lower. If the market interest rates had been 100 basis points lower at December 31, 2022, profit or loss before taxes would have been EUR 271 million (December 31, 2021: EUR 263 million) higher. The hypothetical effect of EUR 271 million/EUR -270 million on profit or loss primarily results from potential effects of EUR 263 million/EUR -263 million from interest rate derivatives. Potential effects from interest rate derivatives are partially balanced out by the contrasting performance of non-derivative financial instruments, which cannot, however, be shown due to applicable accounting standards. The effects from the options embedded in the bonds issued by T-Mobile US are not included in this simulation. The resulting sensitivities are set out in the above table "Sensitivities of the carrying amounts of the financial assets and financial liabilities assigned to Level 3 depending on unobservable inputs." However, the effects from the other financial instruments assigned to Level 3 described above are included. If the market interest rates had been 100 basis points higher (lower) at December 31, 2022, the hedging and revaluation reserves in equity before taxes would have been EUR 538 million higher (EUR 540 million lower) (December 31, 2021: EUR 129 million higher (EUR 129 million lower)).

Other price risks. As part of the presentation of market risks, IFRS 7 also requires disclosures on how hypothetical changes in risk variables affect the price of financial instruments. Important risk variables are stock exchange prices or indexes.

If the share price of T-Mobile US had been 10 % higher (lower) at December 31, 2022, the fair value of unconditional forward transactions and options held for the purchase of shares in T-Mobile US would have been EUR 346 million higher (EUR 342 million lower) (December 31, 2021: EUR 350 higher (EUR 335 million lower)). In addition, aside from the value-creating factors in the financial instruments assigned to Level 3 described above, there were no other price risks at the reporting date.

Deutsche Telekom is exposed to a credit risk from its operating activities and certain financing activities. As a rule, transactions with regard to financing activities are only concluded with counterparties that have at least a credit rating of BBB+/Baa1, in connection with an operational credit management system. At the level of operations, the outstanding debts are continuously monitored in each area, i.e., locally. Credit risks are taken into account through allowances calculated at portfolio level. The solvency of the business with corporate customers, especially international carriers, is monitored separately. In terms of the overall risk exposure from the credit risk, however, the receivables from these counterparties are not so extensive as to justify extraordinary concentrations of risk.

Maximum credit risk of financial assets[a]

millions of €

Classes of financial instruments (IFRS 7)	Measurement category (IFRS 9)	2022	2021
Originated loans and other receivables	AC	6,341	5,249
	FVOCI	0	0
	FVTPL	646	233
Cash and cash equivalents	AC	5,792	7,624
Trade receivables	AC	6,969	6,062
	FVOCI	9,841	9,633
	FVTPL	0	1
Contract assets (IFRS 15)	n.a.	2,410	2,054
Lease receivables	n.a.	205	228

[a] Including the assets of the GD tower companies and of the wireline business at T-Mobile US included as of December 31, 2022, and the assets of T-Mobile Netherlands included as of December 31, 2021 under assets directly associated with non-current assets and disposal groups held for sale.

Development of allowances[a]

millions of €

	General approach									Simplified approach			
	12-month expected credit losses			Lifetime expected credit losses									
	Stage 1 – No change in credit risk since initial recognition			Stage 2 – Significant increase in credit risk since initial recognition, not credit-impaired			Stage 3 – Credit-impaired at the reporting date (not purchased or originated credit-impaired)						
	Cash and cash equivalents	Originated loans and other receivables		Cash and cash equivalents	Originated loans and other receivables		Cash and cash equivalents	Originated loans and other receivables		Trade receivables		Contract assets	Lease assets
	AC	AC	FVOCI	AC	AC	FVOCI	AC	AC	FVOCI	AC	FVOCI	n.a.	n.a.
January 1, 2022	**0**	**(3)**	**0**	**0**	**0**	**0**	**0**	**(15)**	**0**	**(1,225)**	**(357)**	**(38)**	**0**
Reclassification due to a change in business model										(35)	35		
Additions								(6)		(419)	(920)	(76)	
Use										441	814	28	
Reversal										120	0	41	
Other										35	(3)		
Foreign currency effect										2	(12)		
December 31, 2022	**0**	**(3)**	**0**	**0**	**0**	**0**	**0**	**(21)**	**0**	**(1,081)**	**(443)**	**(45)**	**0**

[a] Including the allowances of the GD tower companies and of the wireline business at T-Mobile US included as of December 31, 2022, and the allowances of T-Mobile Netherlands included under assets directly associated with non-current assets and disposal groups held for sale as of December 31, 2021.

There were no material transfers in the general approach.

Credit rating of financial assets measured at amortized cost or at fair value through other comprehensive income[a]

millions of €

	Dec. 31, 2022				Dec. 31, 2021			
	Contractual obligations fulfilled to date	Disruptions in performance already occurred	Non-performing	Total	Contractual obligations fulfilled to date	Disruptions in performance already occurred	Non-performing	Total
General approach (short term)								
12-month expected credit losses (stage 1)	10,257			**10,257**	11,291			**11,291**
Lifetime expected credit losses								
Significant increase in credit risk, but not credit-impaired (stage 2)		85		**85**		83		**83**
Credit-impaired at the reporting date, but not purchased or originated credit-impaired (stage 3)			64	**64**			52	**52**
	10,257	**85**	**64**	**10,406**	**11,291**	**83**	**52**	**11,426**
General approach (long term)								
12-month expected credit losses (stage 1)	1,716			**1,716**	1,449			**1,449**
Lifetime expected credit losses								
Significant increase in credit risk, but not credit-impaired (stage 2)		1		**1**		2		**2**
Credit-impaired at the reporting date, but not purchased or originated credit-impaired (stage 3)			0	**0**			1	**1**
	1,716	**1**	**0**	**1,717**	**1,449**	**2**	**1**	**1,452**
Simplified approach								
Trade receivables	16,180	649	1,063	**17,892**	15,161	696	1,060	**16,917**
Contract assets	2,386	59	9	**2,454**	2,056	29	8	**2,093**
Lease receivables	205			**205**	228			**228**
	18,771	**708**	**1,072**	**20,551**	**17,445**	**725**	**1,068**	**19,238**
Financial assets that are purchased or originated credit-impaired								
Receivables				**0**				**0**
	30,744	**794**	**1,136**	**32,674**	**30,185**	**810**	**1,121**	**32,116**

[a] Including the assets of the GD tower companies and of the wireline business at T-Mobile US included as of December 31, 2022, and the assets of T-Mobile Netherlands included under assets directly associated with non-current assets and disposal groups held for sale as of December 31, 2021.

Offsetting of financial instruments

millions of €

	Dec. 31, 2022				Dec. 31, 2021			
	Trade receivables	Trade payables	Derivative financial assets	Derivative financial liabilities	Trade receivables	Trade payables	Derivative financial assets	Derivative financial liabilities
Gross amounts subject to enforceable master netting arrangements or similar agreements	578	499	1,550	2,830	181	158	1,844	696
Amounts set off in the statement of financial position in accordance with IAS 32.42	(74)	(74)			(100)	(100)		
Net amounts presented in the statement of financial position	**504**	**425**	**1,550**	**2,830**	**81**	**58**	**1,844**	**696**
Amounts subject to enforceable master netting arrangements or similar agreements and not meeting all offsetting requirements in accordance with IAS 32.42	**(21)**	**(21)**	**(1,548)**	**(2,806)**	**(23)**	**(23)**	**(1,831)**	**(664)**
Of which: amounts related to recognized financial instruments	(21)	(21)	(1,414)	(1,414)	(23)	(23)	(241)	(241)
Of which: amounts related to financial collateral (including cash collateral)			(134)	(1,392)			(1,590)	(423)
Net amounts	**483**	**404**	**2**	**24**	**58**	**35**	**13**	**32**

Offsetting is applied in particular to receivables and liabilities at Deutsche Telekom AG and Telekom Deutschland GmbH for the routing of international calls via the fixed network and for roaming fees in the mobile network.

In line with the contractual provisions, in the event of insolvency all derivatives with a positive or negative fair value that exist with the respective counterparty are offset against each other, leaving a net receivable or liability. The net amounts are normally recalculated every bank working day and offset against each other. When the netting of the positive and negative fair values of all derivatives was positive from Deutsche Telekom's perspective, the counterparty provided Deutsche Telekom with cash pursuant to the collateral contracts mentioned in Note 1 "Cash and cash equivalents." The credit risk was thus further reduced.

When the netting of the positive and negative fair values of all derivatives was negative from Deutsche Telekom's perspective, Deutsche Telekom provided cash collateral to counterparties pursuant to collateral agreements. The net amounts are normally recalculated every bank working day and offset against each other. The cash collateral paid is offset by corresponding negative net derivative positions of EUR 1,392 million at the reporting date, which is why it was not exposed to any credit risks in this amount at the reporting date.

For further information, please refer to Note 11 "Other financial assets."

The collateral paid is reported under originated loans and other receivables within other financial assets. On account of its close connection to the corresponding derivatives, the collateral paid constitutes a separate class of financial assets. Likewise, the collateral received, which is reported as other interest-bearing liabilities under financial liabilities, constitutes a separate class of financial liabilities on account of its close connection to the corresponding derivatives. There were no other significant agreements reducing the maximum exposure to the credit risk of financial assets. The maximum exposure to the credit risk of the other financial assets thus corresponds to their carrying amounts.

In accordance with the terms of the bonds issued by T-Mobile US, T-Mobile US has the right to terminate the majority of bonds prematurely under specific conditions. The rights of early termination constitute embedded derivatives and are presented separately as derivative financial assets in the consolidated statement of financial position. Since they are not exposed to any credit risk, they constitute a separate class of financial instruments. Please refer to the explanations above for more information on the energy forward agreements for which no collateral is provided. There is also no credit risk on embedded derivatives held.

No collateral is provided for the options received from third parties for the purchase or sale of shares in subsidiaries and associates.

In connection with auctions for the planned acquisition of spectrum licenses, subsidiaries of Deutsche Telekom have deposited additional cash collateral of EUR 2 million when translated into euros. At the reporting date, cash and cash equivalents of EUR 63 million when translated into euros were pledged as collateral for liabilities issued by Sprint with the right of creditors to priority repayment in the event of default. This cash collateral is not exposed to any significant credit risk.

For further information, please refer to Note 13 "Financial liabilities and lease liabilities."

Liquidity risks

For further information, please refer to Note 13 "Financial liabilities and lease liabilities."

Hedge accounting

Fair value hedges. To hedge the fair value risk of fixed-income liabilities, Deutsche Telekom primarily uses interest rate swaps and forward interest rate swaps (pay variable, receive fixed) denominated in EUR and USD. Fixed-income bonds denominated in EUR and USD were designated as hedged items. The changes in the fair values of the hedged items resulting from changes in the EURIBOR or USD LIBOR swap rate are offset against the changes in the value of these interest rate swaps. In addition, cross-currency swaps mainly in the EUR/USD and EUR/GBP currency pairs, are designated as fair value hedges, which convert fixed-income foreign currency bonds into variable-interest EUR bonds to hedge the interest rate and currency risk. The changes in the fair value of the hedged items resulting from changes in the USD LIBOR and GBP SOFR swap rate as well as the USD and GBP exchange rate, are offset against the changes in the value of the cross-currency swaps. The aim of the fair value hedges is thus to transform the fixed-income bonds into variable-interest debt, thus hedging the fair value (interest rate risk and currency risk) of these financial liabilities. Credit risks are not part of the hedging and, on account of Deutsche Telekom's rating, have only an immaterial effect on the changes in the fair value of the hedged item.

Cash flow hedges – interest rate risks. Deutsche Telekom mainly uses payer interest rate swaps and forward-payer interest rate swaps (pay fixed, receive variable) to hedge the cash flow risk of existing and future debt. The interest payments to be made in the hedging period are the hedged items and are recognized in profit or loss in the same period. Hedged items may be individual liabilities, portfolios of liabilities, or combinations of liabilities and derivatives (aggregate risk exposure). The changes in the cash flows of the hedged items resulting from changes in the USD LIBOR rate and the EURIBOR rate are offset against the changes in the cash flows of the interest rate swaps. The aim of this hedging is to transform the variable-interest bonds into fixed-income debt, thus hedging the cash flows of the financial liabilities. Credit risks are not part of the hedging and, on account of Deutsche Telekom's rating, have only an immaterial effect on the changes in the fair value of the hedged item.

Cash flow hedges – currency risks. Deutsche Telekom entered into currency derivative and cross-currency swaps (pay fixed, receive variable) to hedge cash flows not denominated in a functional currency. The payments in foreign currency to be made in the hedging period are the hedged items and are recognized in profit or loss in the same period. The terms of the hedging relationships will end in the years 2023 through 2033. In the case of rolling cash flow hedges for hedging currency risks, short-term currency forwards are entered into, which are then extended by means of follow-up transactions.

At each reporting date, the effectiveness of the fair value and cash flow hedges is reviewed prospectively based on the main contractual features and determined retrospectively in the form of a statistical regression analysis; for rolling foreign currency hedges the effectiveness is reviewed using the dollar offset test. All hedging relationships were sufficiently effective as of the reporting date.

Hedging of a net investment. The hedges of the net investment in T-Mobile US against fluctuations in the U.S. dollar spot rate de-designated in prior periods did not generate any effects in 2022. The amounts recognized in total other comprehensive income would be reclassified in the event of the disposal of T-Mobile US.

Conditions of derivative financial instruments in hedging relationships

millions of €

	2023					
	Nominal amount	Average hedge rate	Average swap rate received	Average swap rate paid	Average margin paid	Average margin received
Fair value hedges						
Interest rate risk						
EURIBOR	2,025		0.6202 %	6M EURIBOR	0.3159 %	
USD LIBOR	702		2.4860 %	3M USD LIBOR	1.1020 %	
Cross-currency risk						
USD/EUR						
GBP/EUR	353	0.8506	1.2500 %	3M EURIBOR	0.4625 %	
GBP/EUR						
Other	79					
Cash flow hedges						
Currency risk						
Buy						
USD/EUR	291	1.1551				
GBP/EUR	53	0.8362				
Sell						
USD/EUR	241	1.2246				
CHF/EUR	9	1.0578				
Interest rate risk						
EURIBOR	2,025		6M EURIBOR	-0.2190 %		0.3159 %
EURIBOR	353		3M EURIBOR	-0.1380 %		0.4620 %
USD LIBOR						

millions of €	2024–2027					
	Nominal amount	Average hedge rate	Average swap rate received	Average swap rate paid	Average margin paid	Average margin received
Fair value hedges						
Interest rate risk						
EURIBOR	6,750		1.0418 %	6M EURIBOR	0.4734 %	
USD LIBOR	1,171		3.6000 %	3M USD LIBOR	1.3635 %	
Cross-currency risk						
USD/EUR						
GBP/EUR	339	0.8853	2.5000 %	3M EURIBOR	0.6485 %	
GBP/EUR						
Other	263					
Cash flow hedges						
Currency risk						
Buy						
USD/EUR	171	1.0211				
GBP/EUR						
Sell						
USD/EUR	349	1.2355				
CHF/EUR	20	1.0578				
Interest rate risk						
EURIBOR	3,400		6M EURIBOR	-0.0750 %		0.4172 %
EURIBOR						
USD LIBOR	1,405		3M USD LIBOR	4.7500 %		2.0707 %

millions of €	2028 and thereafter					
	Nominal amount	Average hedge rate	Average swap rate received	Average swap rate paid	Average margin paid	Average margin received
Fair value hedges						
Interest rate risk						
EURIBOR	5,050		1.6845 %	6M EURIBOR	0.9952 %	
USD LIBOR	3,854		4.3118 %	3M USD LIBOR	1.6737 %	
Cross-currency risk						
USD/EUR	1,557	1.1221	8.7500 %	3M EURIBOR	5.8751 %	
GBP/EUR	633	0.8688	3.1111 %	6M EURIBOR	0.9253 %	
GBP/EUR	292	0.8553	2.2500 %	3M EURIBOR	0.8500 %	
Other	555					
Cash flow hedges						
Currency risk						
Buy						
USD/EUR	1,758	1.3444	8.7815 %	7.7825 %		
GBP/EUR	441	0.9052	7.9316 %	7.5742 %		
Sell						
USD/EUR						
CHF/EUR						
Interest rate risk						
EURIBOR	1,782		6M EURIBOR	3.5241 %		0.7289 %
EURIBOR	2,206		3M EURIBOR	3.9842 %		1.6977 %
USD LIBOR						

Nominal and carrying amounts of derivative financial instruments in hedging relationships[a]

millions of €

	2022					2021					
	Nominal amount of the hedging instruments		Carrying amount of the hedging instruments			Nominal amount of the hedging instruments		Carrying amount of the hedging instruments			
	in foreign currencies	in euros	Financial assets	Financial liabilities	Change in value of the hedging instruments in the reporting period for determining ineffectiveness	in foreign currencies	in euros	Financial assets	Financial liabilities	Change in value of the hedging instruments in the reporting period for determining ineffectiveness	Disclosure of the hedging instruments in the statement of financial position
Fair value hedges											
Interest rate risk		19,552	0	(2,101)	(3,030)		20,224	972	(3)	(957)	Other financial assets/ financial liabilities
Of which: EUR		13,825					14,825				
Of which: USD	6,115	5,727				6,115	5,399				
Of which: GPB	0	0				0	0				
Cross-currency risk		4,071	0	(376)	(596)		4,071	223	(8)	(114)	Other financial assets/ financial liabilities
Of which: USD	1,747	1,557				1,747	1,557				
Of which: GPB	1,400	1,617				1,400	1,617				
Of which: other		897					897				
Cash flow hedges											
Currency risk		3,334	466	(29)	187		4,214	321	(1)	257	Other financial assets/ financial liabilities
Buy											
USD/EUR	2,806	2,220				2,872	2,245				
GBP/EUR	447	495				1,155	1,277				
Other		0					3				
Sell											
USD/EUR	622	590				746	654				
Other		29					36				
Interest rate risk		11,171	568	(15)	582		9,606	43	(105)	67	Other financial assets/ financial liabilities
USD LIBOR	1,500	1,405				2,750	2,428				
EURIBOR		9,766					7,178				

[a] In this and the following tables on hedging relationships, losses are shown as negative amounts unless explicitly stated otherwise.

Disclosures on hedged items in hedging relationships

millions of €

		Carrying amount of the hedged items (including cumulative fair value hedge adjustments)	Cumulative adjustments to the carrying amount of the existing fair value hedges	Change in the fair value of the hedged items for determining ineffectiveness in the reporting period	Remaining balance of cumulative adjustments to the carrying amount of the terminated fair value hedges	Balance of amounts recognized in other comprehensive income relating to hedged risk (existing hedging relationships)[a]	Balance of amounts recognized in other comprehensive income relating to hedged risk (terminated hedging relationships)[a]	Presentation of the hedged items in the statement of financial position
Fair value hedges								Financial liabilities
Interest rate risk	**2022**	17,856	(1,975)	3,041	259	n.a.	n.a.	
	2021	20,923	799	970	277	n.a.	n.a.	
Cross-currency risk	**2022**	3,208	(781)	622	0	n.a.	n.a.	
	2021	4,304	59	129	0	n.a.	n.a.	
Cash flow hedges								n.a.
Currency risk	**2022**	n.a.	n.a.	(188)	n.a.	192	7	
	2021	n.a.	n.a.	(255)	n.a.	129	8	
Interest rate risk	**2022**	n.a.	n.a.	(574)	n.a.	540	(1,606)	
	2021	n.a.	n.a.	(42)	n.a.	(43)	(1,847)	
Hedges of net investment								n.a.
Currency risk	**2022**	n.a.	n.a.	n.a.	n.a.	794	n.a.	
	2021	n.a.	n.a.	0	n.a.	794	n.a.	

[a] Figures include non-controlling interests.

Gains or losses from hedging relationships

millions of €

		Hedge ineffectiveness of existing hedging relationships recognized in profit or loss	Changes in fair value recognized directly in other comprehensive income	Amounts reclassified to profit or loss from other comprehensive income due to occurrence of the hedged items (existing hedging relationships)[a]	Amounts reclassified to profit or loss from other comprehensive income due to occurrence of the hedged items (terminated hedging relationships)[a]	Total change in other comprehensive income	Presentation of the reclassified effective amounts in profit or loss	Presentation of the ineffectiveness in profit or loss
Fair value hedges							n.a.	Other financial income (expense)
Interest rate risk	**2022**	11	n.a.	n.a.	n.a.	n.a.		
	2021	13	n.a.	n.a.	n.a.	n.a.		
Cross-currency risk	**2022**	26	n.a.	n.a.	n.a.	n.a.		
	2021	15	n.a.	n.a.	n.a.	n.a.		
Cash flow hedges								Other financial income (expense)
Currency risk	**2022**	(1)	188	(125)	(1)	62	Net revenue/ goods and services purchased/other financial income (expense)	
	2021	2	255	(258)	0	(4)		
Interest rate risk	**2022**	8	575	7	241	823	Interest expense	
	2021	25	42	68	207	316		

[a] Negative amounts represent gains in the consolidated income statement.

The recorded ineffectiveness in the consolidated income statement mainly results from the different discount rates of the hedged items (fixed-income) and designated hedging instruments (fixed-income and variable-interest). Furthermore, cross-currency interest rate hedges are impacted by effects from cross-currency basis spreads, which are included in the hedging instruments, but not in the hedged items. For some hedges, the characteristics of hedging instruments and hedged items differ, resulting in ineffectiveness. In the case of interest rate hedges on highly probable future borrowings, ineffectiveness could arise if time shifts occur. The relative amounts of the ineffectiveness are not expected to increase significantly in the future. Furthermore, there are no other potential sources of ineffectiveness.

Reconciliation of total other comprehensive income from hedging relationships[a]

millions of €

	Designated risk components (effective portion)					
	Cash flow hedges		Hedges of net investment			
	Currency risk	Interest rate risk	Currency risk	**Total designated risk components**	Hedging costs[b]	**Total other comprehensive income**
At January 1, 2022	137	(1,889)	794	(958)	86	(872)
Changes recognized directly in equity	188	575		763	(52)	711
Reclassification to profit or loss due to occurrence of the hedged item	(126)	248		122	1	124
At December 31, 2022	**199**	**(1,066)**	**794**	**(73)**	**35**	**(37)**

[a] Figures include non-controlling interests.
[b] The hedging costs relate entirely to cross-currency basis spreads.

Derivatives. The following table shows the fair values of the various derivatives. A distinction is made depending on whether these are part of an effective hedging relationship as set out in IFRS 9 (fair value hedge, cash flow hedge, net investment hedge) or not. Other derivatives can also be embedded, i.e., a component of a composite instrument that contains a non-derivative host contract.

millions of €

	Net carrying amounts Dec. 31, 2022	Net carrying amounts Dec. 31, 2021
Assets		
Interest rate swaps		
Without a hedging relationship	16	8
In connection with fair value hedges	0	972
In connection with cash flow hedges	568	43
Currency forwards/currency swaps		
Without a hedging relationship	50	44
In connection with cash flow hedges	26	17
Cross-currency swaps		
Without a hedging relationship	441	227
In connection with fair value hedges	0	223
In connection with cash flow hedges	440	305
Other derivatives in connection with cash flow hedges	0	0
Other derivatives without a hedging relationship	414	246
Embedded derivatives	317	677
Liabilities		
Interest rate swaps		
Without a hedging relationship	85	64
In connection with fair value hedges	2,101	3
In connection with cash flow hedges	15	105
Currency forwards/currency swaps		
Without a hedging relationship	41	15
In connection with cash flow hedges	10	1
In connection with net investment hedges	0	0
Cross-currency swaps		
Without a hedging relationship	78	45
In connection with fair value hedges	376	8
In connection with cash flow hedges	19	0
Other derivatives in connection with cash flow hedges	0	0
Other derivatives without a hedging relationship	108	454
Embedded derivatives	55	7

Transfer of financial assets

Factoring transactions with substantially all risks and rewards being transferred

For two factoring agreements terminated or deconsolidated as planned in the first quarter of the financial year, expenses of EUR 10 million have been recognized on a cumulative basis since commencement of the agreements.

Factoring transactions involving the splitting of significant risks and rewards as well as the transfer of control

For one factoring agreement deconsolidated in the first quarter of the financial year, expenses of EUR 7 million have been recognized on a cumulative basis since commencement of the agreement.

Factoring transactions involving the splitting of significant risks and rewards with control remaining at Deutsche Telekom

Deutsche Telekom is party to factoring agreements under which trade receivables from consumers and business customers relating to both charges already due and charges from sales of handsets payable over a period of up to two years are sold on a revolving basis. In two transactions, subsidiaries of Deutsche Telekom sell receivables to structured entities that are also subsidiaries of Deutsche Telekom and were established for the sole purpose of these factoring agreements. The required funding is provided to these structured entities in the context of Deutsche Telekom's general Group financing. These structured entities have no assets and liabilities other than those resulting from the purchase and sale of the receivables under factoring agreements. The structured entities transfer the legal role of creditor for the receivables in each case to a bank that performs this role on behalf of the respective investors who have beneficial ownership of the receivables (administrative agent). For both agreements, these investors are ten banks and six other structured entities altogether. Deutsche Telekom does not consolidate these six other structured entities because it has no control over their relevant activities. The six other structured entities are financed through the issue of commercial paper to third parties outside the Group or, alternatively, through a credit facility provided in each case by a bank. The receivables being sold are selected from the relevant portfolios, either in an automated process in compliance with the eligibility criteria set out in the receivables purchase agreement or based on the decision of the relevant structured entity taking an obligatory minimum volume into account. Receivables are sold on a daily basis and billed on a monthly basis. The purchase price up to a specific amount will be paid out immediately upon sale; remaining portions of the purchase price will only be paid to the extent that the volume of receivables sold in the relevant portfolio decreases further accordingly or the characteristics of the receivables change. In the transactions, Deutsche Telekom is obligated to buy back aged receivables and receivables for which a write-off is imminent at nominal value. Such buy-backs do not affect the allocation of the credit risk-related losses in any way, as the latter would be passed back to the buyers in line with the agreed risk allocation. The cash flows resulting from the buy-backs normally occur in the month following the buy-back. None of the structured entities has business activities other than the purchase or sale of trade receivables or other investments. In none of the transactions is Deutsche Telekom exposed to risks other than the credit risk and late-payment risk resulting from the sold receivables agreed in the respective agreement. The risks relevant for the risk assessment with respect to the sold receivables are based on the credit risk and the late-payment risk. Deutsche Telekom bears certain portions of the credit risk in the individual transactions. The other credit risk-related losses are borne by the respective buyers. The late-payment risk in all transactions continues to be borne in full by Deutsche Telekom. Substantially all the risks and rewards of ownership of the receivables were neither transferred nor retained (allocation of the material risks and rewards between Deutsche Telekom and the buyers). Deutsche Telekom continues to perform servicing for the receivables sold. The buyers have the right to transfer the servicing to third parties for no specific reason. Although Deutsche Telekom is not authorized to use the receivables sold other than in its capacity as servicer, it retains control over the receivables sold because the buyers and the structured entities do not have the practical ability to resell the purchased receivables. At the time the receivables are sold, the fair value of the expected losses is expensed. Expected future payments are presented as a component of the associated liability. Certain portions of the purchase price are initially held back and, depending on the amount of the actual defaults, are only paid to Deutsche Telekom at a later date. To the extent that such portions of the purchase price are expected to be received in the future, they are recognized at fair value. Deutsche Telekom continues to recognize the trade receivables sold to the extent of its continuing involvement, i.e., in the maximum amount with which it is still liable for the credit risk and late-payment risk inherent in the receivables sold, and recognizes a corresponding associated liability presented in liabilities to banks. The receivables and the associated liability are then derecognized in the extent to which Deutsche Telekom's continuing involvement is reduced (particularly when payment is made by the customer). The carrying amount of the receivables is subsequently reduced by the extent to which the actual losses to be borne by Deutsche Telekom resulting from the credit risk and the late-payment risk exceed the losses initially expected. This amount is recognized as an expense. Please refer to the table below for the disclosures on the continuing involvement resulting from the receivables sold.

For three factoring agreements terminated or deconsolidated as planned in the first quarter of the financial year, expenses of EUR 13 million have been recognized on a cumulative basis since commencement of the agreements.

Transfer of financial assets

millions of €

	2022					
	Transfer of substantially all risks and rewards		Allocation of substantially all risks and rewards			
	Partial transfer of the credit risk and full retention of the late-payment risk	Full transfer of the credit and late-payment risk	Transfer of control	Retention of control		
			Partial transfer of the credit risk and full retention of the late-payment risk	Partial or full transfer of the credit risk and full retention of the late-payment risk		
	With the involvement of structured entities	Without the involvement of structured entities		With the involvement of structured entities	Without the involvement of structured entities	Total
End of contract terms				2023–2026		
Contractual maximum volume				9,014		**9,014**
Purchase prices to be paid immediately				2,107		**2,107**
Volume of receivables sold as of the reporting date				2,812		**2,812**
Scope of volume of receivables sold in the reporting year				658–2,138		
Provision for receivables management				0		**0**
Continuing involvement						
Maximum credit risk (before credit insurance)				562		**562**
Credit insurance				0		**0**
Maximum late-payment risk				169		**169**
Carrying amount of the continuing involvement (asset side)				525		**525**
Carrying amount of the associated liability				658		**658**
Fair value of the associated liability				133		**133**
Buy-back agreements						
Nominal value of receivables that can be bought back at the nominal amount				2,812		**2,812**
Nominal value of receivables that can be bought back at the collected amount				0		**0**
Purchase price discounts recognized in profit or loss, program fees, and pro rata loss allocations						
Current reporting year				307		**307**
Cumulative since commencement of the agreement				1,561		**1,561**

millions of €

	2021					
	Transfer of substantially all risks and rewards		Allocation of substantially all risks and rewards			
	Partial transfer of the credit risk and full retention of the late-payment risk	Full transfer of the credit and late-payment risk	Transfer of control	Retention of control		
			Partial transfer of the credit risk and full retention of the late-payment risk	Partial or full transfer of the credit risk and full retention of the late-payment risk		
	With the involvement of structured entities	Without the involvement of structured entities		With the involvement of structured entities	Without the involvement of structured entities	**Total**
End of contract terms	2023	2022	2022	2022–2025	2022	
Contractual maximum volume	95	85	90	8,829	324	**9,423**
Purchase prices to be paid immediately	95	85	80	2,041	324	**2,625**
Volume of receivables sold as of the reporting date	101	75	79	2,799	250	**3,304**
Scope of volume of receivables sold in the reporting year	11–49	26–75	18–32	1,533–2,046	112–296	
Provision for receivables management	0	0	0	0	0	**0**
Continuing involvement						
Maximum credit risk (before credit insurance)	6	0	15	593	0	**614**
Credit insurance	0	29	0	0	21	**50**
Maximum late-payment risk	0	0	0	6	0	**6**
Carrying amount of the continuing involvement (asset side)	0	0	0	507	0	**507**
Carrying amount of the associated liability	0	0	0	599	0	**599**
Fair value of the associated liability	0	0	0	91	0	**91**
Buy-back agreements						
Nominal value of receivables that can be bought back at the nominal amount	0	0	79	2,743	0	**2,822**
Nominal value of receivables that can be bought back at the collected amount	101	0	0	56	0	**157**
Purchase price discounts recognized in profit or loss, program fees, and pro rata loss allocations						
Current reporting year	1	0	1	91	1	**94**
Cumulative since commencement of the agreement	7	3	7	1,262	4	**1,283**

43 Capital management

The overriding aim of Deutsche Telekom’s capital management is to strike a balance between the contrasting expectations of the following stakeholders, so that sufficient funding is available for an attractive dividend, debt repayment, responsible staff restructuring, and new investment in a sustainable and positive customer experience:

- **Shareholders** expect an appropriate, reliable return on their capital employed.
- **Providers of debt capital** expect an appropriate return and that Deutsche Telekom is able to repay its debts.
- **Employees** expect jobs that are secure, prospects for the future, and that any necessary staff restructuring will be done in a responsible manner.
- **“Entrepreneurs within the enterprise”** expect sufficient investment funding to be able to shape Deutsche Telekom’s future business and develop products, innovations, and services for the customer.
- **Society** expects Deutsche Telekom to do everything within its power to protect the environment, encourage fair and democratic co-existence, and shape the digital transformation in a responsible manner.

An important key performance indicator for the capital market communication with investors, analysts, and rating agencies is **financial flexibility**, which Deutsche Telekom determines based on **relative debt**, i.e., net debt to adjusted EBITDA. This ratio stood at 3.07x at December 31, 2022 (December 31, 2021: 3.06x). Deutsche Telekom is expected to leave the target range for relative debt of 2.25x to 2.75x on account of the business combination of T-Mobile US and Sprint until the end of 2024. Adjusted EBITDA and net debt are non-GAAP figures not governed by International Financial Reporting Standards, and their definition and calculation may vary from one company to another.

		2022	2021	2020
Relative debt[a]				
Net debt / EBITDA (adjusted for special factors)		**3.07x**	3.06x	2.78x
Equity ratio	%	**29.2**	28.9	27.4

[a] Relative debt is calculated on a quarterly basis and the calculation of the figure for 2020 includes as an input for the first quarter of 2020 historic pro forma figures for Sprint, which was included in the United States operating segment.

A further essential key performance indicator is the equity ratio, i.e., the ratio of shareholders' equity to total assets as shown in the consolidated statement of financial position. The equity ratio was 29.2 % as of December 31, 2022 (December 31, 2021: 28.9 %). The target range remains unchanged between 25 and 35 %. In addition, Deutsche Telekom maintains a liquidity reserve covering all maturities of the next 24 months.

For further information, please refer to the sections "Management of the Group" and "Development of business in the Group" in the combined management report.

The following table shows the calculation of net debt from the statement of financial position values.

millions of €	Dec. 31, 2022[a]	Dec. 31, 2021[b]	Change	Change %
Bonds and other securitized liabilities	93,802	93,857	(55)	(0.1)
Liabilities to banks	4,122	4,003	119	3.0
Other financial liabilities	15,107	13,730	1,377	10.0
Lease liabilities	41,063	33,767	7,296	21.6
Financial liabilities and lease liabilities	**154,093**	**145,357**	**8,736**	**6.0**
Accrued interest	(999)	(1,012)	13	1.3
Other	(805)	(855)	50	5.8
Gross debt	**152,289**	**143,490**	**8,799**	**6.1**
Cash and cash equivalents	5,767	7,617	(1,850)	(24.3)
Derivative financial assets	2,273	2,762	(489)	(17.7)
Other financial assets	1,824	969	855	88.2
Net debt	**142,425**	**132,142**	**10,283**	**7.8**

[a] Including the net debt of the discontinued operation GD Towers and of the wireline business at T-Mobile US included under liabilities directly associated with non-current assets and disposal groups held for sale as of December 31, 2022.

[b] Including the net debt of T-Mobile Netherlands included under liabilities directly associated with non-current assets and disposal groups held for sale as of December 31, 2021.

44 Related-party disclosures

Federal Republic of Germany and other related parties

The Federal Republic of Germany is both a direct and an indirect shareholder (via KfW Bankengruppe) and holds 30.5 % (December 31, 2021: 30.5 %) of the share capital of Deutsche Telekom AG. In previous years, this resulted in the Federal Republic of Germany representing a solid majority at the shareholders' meetings of Deutsche Telekom AG due to its level of attendance, giving it control over Deutsche Telekom. Thanks to higher levels of attendance, the Federal Republic has not had a majority of the voting rights at the shareholders' meetings of Deutsche Telekom AG since 2016. As such, it is no longer deemed to have control over Deutsche Telekom, but rather only a significant influence. Therefore, the Federal Republic and the companies controlled and jointly controlled by the Federal Republic, but not the companies over which the Federal Republic can exercise a significant influence, are classified as related parties of Deutsche Telekom. In the course of business, Deutsche Telekom deals directly with these companies, and with authorities and other government agencies as an independent party. Deutsche Telekom participates in the spectrum auctions of the Bundesnetzagentur. The acquisition of mobile spectrum through licenses may result in build-out obligations.

The Federal Posts and Telecommunications Agency (Bundesanstalt für Post und Telekommunikation; Federal Agency) has been assigned certain tasks by law that affect cross-company issues at Deutsche Telekom AG, Deutsche Post AG, and Deutsche Bank AG (as legal successor of Deutsche Postbank AG). The Federal Agency's responsibilities include the continuation of the Civil Service Health Insurance Fund (Postbeamtenkrankenkasse), the Recreation Service (Erholungswerk), the Deutsche Bundespost Institution for Supplementary Retirement Pensions for Salaried Employees and Wage Earners (Versorgungsanstalt der Deutschen Bundespost), and the Welfare Service (Betreuungswerk) for Deutsche Telekom AG, Deutsche Post AG, and Deutsche Bank AG, Frankfurt am Main, Germany (as legal successor of Deutsche Postbank AG). The coordination and administrative tasks are performed on the basis of agency agreements. Up to and including the 2012 reporting year, Deutsche Telekom AG maintained a joint pension fund, Bundes-Pensions-Service für Post und Telekommunikation e.V., Bonn (Federal Pension Service for Post and Telecommunications – BPS-PT), together with Deutsche Post AG and Deutsche Bank AG (as legal successor of Deutsche Postbank AG) for civil-servant pension plans. The German Act on the Reorganization of the Civil Service Pension Fund (Gesetz zur Neuordnung der Postbeamtenversorgungskasse – PVKNeuG) transferred the functions of BPS-PT relating to civil-servant pensions (organized within the Civil Service Pension Fund) to the existing Federal Agency effective January 1, 2013. The civil-servant pension functions are therefore performed by the Civil Service Pension Fund as an integral part of the Federal Agency. This joint Civil Service Pension Fund works for the funds of all three companies and also handles the financial administration of the pension plan for the Federal Republic on a trust basis. For the 2022 financial year, Deutsche Telekom made payments in the amount of EUR 93 million (2021: EUR 129 million, 2020: EUR 121 million). Furthermore, payments are made to the Civil Service Pension Fund in accordance with the provisions of the Act on the Reorganization of the Civil Service Pension Fund.

For further information, please refer to Note 15 "Provisions for pensions and other employee benefits."

The Federal Republic and the companies controlled and jointly controlled by the Federal Republic are customers or suppliers of Deutsche Telekom and as such have mutual contractual relationships with Deutsche Telekom.

Material revenues, receivables, and liabilities from or to **joint ventures** and **associates** are as follows:

Revenue generated with the joint venture **GlasfaserPlus** totaled EUR 180 million (2021: n.a.; 2020: EUR n.a.), in particular from the build-out and maintenance of the FTTH network, data processing, telecommunications as well as consulting services. As of December 31, 2022, receivables amounted to EUR 62 million (December 31, 2021: n.a.) and liabilities to EUR 0 million (December 31, 2021: n.a.). In addition, capitalized contract costs of EUR 66 million (December 31, 2021: n.a.) were recognized.

Revenue generated with the joint venture **Glasfaser NordWest** totaled EUR 98 million (2021: EUR 95 million; 2020: EUR 29 million), in particular from the build-out of the FTTH network and maintenance services as well as data processing services. As of December 31, 2022, receivables amounted to EUR 10 million (December 31, 2021: EUR 13 million) and liabilities to EUR 2 million (December 31, 2021: EUR 0 million). In addition, capitalized contract costs of EUR 67 million (December 31, 2021: EUR 61 million) were recognized. Furthermore, Telekom Deutschland GmbH granted Glasfaser NordWest a shareholder loan of EUR 125 million (December 31, 2021: EUR 55 million).

Glasfaser NordWest was granted a loan of EUR 820 million from external banks. As a shareholder of Glasfaser NordWest, Telekom Deutschland assumes liability for this loan with its shares in the company by securing liens on these shares and by assigning pro rata (50 %) entitlements arising under the originated shareholder loan. In the event of conditions precedent arising, the shareholders each have also agreed to grant a loan to repay Glasfaser NordWest's existing liabilities of up to EUR 430 million. Utilization is unlikely, since Glasfaser NordWest is expected to meet its obligations and it is unlikely that the conditions precedent of the loan agreement will arise.

There are no material revenues, receivables or liabilities from or to the associate **DIV II**.

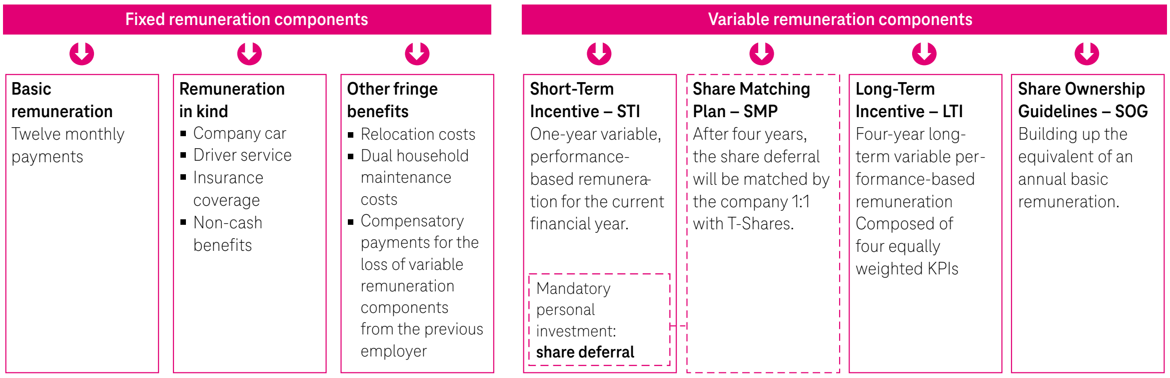
Related individuals

At the Supervisory Board meeting on February 25, 2021, the Supervisory Board adopted a new Board of Management remuneration system which takes into account the updates to the German Corporate Governance Code as amended on December 16, 2019 and the amendments to the German Stock Corporation Act (ARUG II, the Act Implementing the Second Shareholder Rights Directive). This remuneration system was submitted to a vote at the shareholders' meeting of Deutsche Telekom AG on April 1, 2021 and was approved. After this shareholders' meeting, the Supervisory Board looked into the remuneration system once again and decided on individual modifications, which were presented to the shareholders' meeting on April 7, 2022 and approved by this meeting with a high rate of approval. The detailed presentation of the system for Board of Management and Supervisory Board remuneration, disclosures on the remuneration of each individual Board of Management and Supervisory Board member, and other individual disclosures, form part of the remuneration report published separately by the Board of Management and Supervisory Board in accordance with § 162 of the German Stock Corporation Act (Aktiengesetz – AktG).

Detailed information on the remuneration of the Board of Management and the Supervisory Board is published in the separate remuneration report.

The following graphic provides a simplified, schematic representation of fixed and variable remuneration components:

Remuneration of the Board of Management



In the reporting year, expenses for short-term benefits payable to members of the Board of Management and the Supervisory Board amounted to EUR 23.5 million (2021: EUR 23.1 million). These include, as Board of Management remuneration, the basic remuneration, the fringe benefits, and the Short-Term Incentive (STI), as well as Supervisory Board remuneration in the form of fixed remuneration, committee remuneration, and meeting attendance fees. Expenses of EUR 4.5 million (2021: EUR 5.2 million) for tranches of Variable II from the previous remuneration system were recorded as long-term benefits. Service cost of EUR 0.5 million (2021: EUR 0.5 million) was recorded for Board of Management pensions. In addition, expenses for share-based remuneration for Board of Management members were incurred in the amount of EUR 9.6 million (2021: EUR 5.2 million), which related to participation in the Share Matching Plan and in the Long-Term Incentive Plan (LTI). No termination benefits were expensed in 2022 or 2021.

For further information, please refer to Note 46 "Share-based payment."

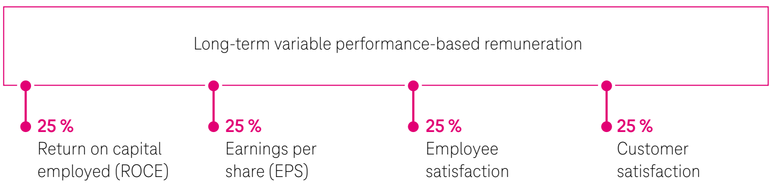
Components of the Short-Term Incentive

GROUP FINANCIAL TARGETS	+	SEGMENT FINANCIAL TARGETS	+	ESG TARGETS	×	PERFORMANCE FACTOR
⅓ of the target amount		⅓ of the target amount		⅓ of the target amount		Strategic personal target + Value adherence
Service revenue	30 %	Service revenue	33 %	CO_2 emissions	50 %	
EBITDA AL (unadjusted)	30 %	EBITDA AL (unadjusted)	33 %	Energy consumption	50 %	
Free cash flow	40 %	Indirect costs AL (adjusted)	33 %			
0 %–150 %		0 %–150 %		0 %–150 %		0.8–1.2

For details on the financial and non-financial performance indicators relevant for the Short-Term Incentive, please refer to the section "Management of the Group" in the combined management report.

The expenses recorded as long-term benefits relate to participation in the annually issued four-year tranches of Variable II, which was granted for the last time for the 2020 financial year and has been replaced since the 2021 financial year by the share-based LTI. The following graphic shows the target parameters allocated to Variable II, for each of which target achievement can vary between 0 and 150 %.

Components of Variable II



The LTI, granted for the first time in 2021, is based on the share price and is set out in detail together with the Share Matching Plan (SMP) as part of the disclosures on share-based payment.

Details on the components of the Long-Term Incentive Plan can be found in Note 46 "Share-based payment."

Based on the explanations above, the obligations from short-term remuneration components for members of the Board of Management and Supervisory Board amount to EUR 13.9 million (December 31, 2021: EUR 13.4 million) and those from long-term remuneration components to EUR 23.6 million (December 31, 2021: EUR 14.8 million). Furthermore, the present value of the defined benefit obligation (DBO) from the Board of Management pension amounts to EUR 17.3 million (December 31, 2021: EUR 27.3 million).

The remuneration of the Board of Management and the Supervisory Board totaled EUR 38.1 million in the reporting year (2021: EUR 33.9 million).

Since the introduction of the new Board of Management remuneration system in 2021, new members of the Board of Management are no longer entitled to receive a Board of Management pension. Current members of the Board of Management with a contribution-based pension commitment did not receive any contributions for 2022. The pension credit accrued up to December 31, 2020 is fixed and non-forfeitable. Upon retirement, these Board of Management members shall receive their pension credit in the form of a lump sum. A special arrangement applies for the pension commitment of Timotheus Höttges, which is structured as defined benefits and upon his retirement will be paid out in the form of life-long pension payments with a pension for surviving dependents in the form of entitlements for widows and orphans. The pension commitment may be in the form of a life-long retirement pension upon reaching the age of 62 or in the form of an early retirement pension upon reaching the age of 60. Opting for the early retirement pension scheme is connected with actuarial deductions. The maximum pension level of 50 % of annual basic remuneration was reached in 2018. Since then, an annual dynamic increase of 2.4 % has been applied to this level. The reference variable for both the pension level and the dynamic increase is the basic remuneration applicable as of December 31, 2018. The pension payments to be made upon retirement increase dynamically, at a rate of 1 % per year. In the event of a permanent incapacity for work (invalidity), the beneficiary is also entitled to the pension credit accrued. The 2022 shareholders' meeting approved the extension of the pension commitment for Timotheus Höttges to include the option for up to 50 % of the vested pension benefits to be paid as a lump sum, instead of a lifetime retirement pension.

Employees elected to the Supervisory Board of Deutsche Telekom AG continue to be entitled to a regular salary as part of their employment contract. The amount of the remuneration is the adequate compensation for their job or activity within the Company. Besides this, no major transactions took place with related individuals.

The members of the Board of Management and Supervisory Board of Deutsche Telekom AG are members of supervisory boards or management boards of other companies or are shareholders of other companies with which Deutsche Telekom AG maintains relations in the ordinary course of business.

All related-party transactions are performed on an arm's length basis.

45 Remuneration of the Board of Management and the Supervisory Board

The disclosure of the total remuneration of current and former members of the Board of Management and the Supervisory Board of Deutsche Telekom AG is made in accordance with the provisions of § 314 (1) No. 6 of the German Commercial Code (Handelsgesetzbuch – HGB).

Board of Management remuneration for the 2022 financial year

Total remuneration of the members of the Board of Management for the 2022 financial year amounted to EUR 39.1 million (2021: EUR 36.8 million). This includes a total of 227,201 entitlements to matching shares with a fair value of EUR 3.2 million on the grant date (2021: EUR 3.0 million). Since 2021, the members of the Board of Management participate in a share price-based Long-Term Incentive Plan (LTI), under which entitlements were granted to a pool of 489,335 (2021: 517,260) phantom shares with a fair value of EUR 8.2 million (2021: EUR 8.8 million).

Former members of the Board of Management

A total of EUR 12.3 million (2021: EUR 10.6 million) was included for payments to and entitlements for former members of the Board of Management as well as any surviving dependents. Provisions (measured in accordance with IAS 19) totaling EUR 140.4 million (2021: EUR 210.2 million) were recognized for current pensions and vested rights to pensions for this group of persons and their surviving dependents.

Supervisory Board remuneration for the 2022 financial year

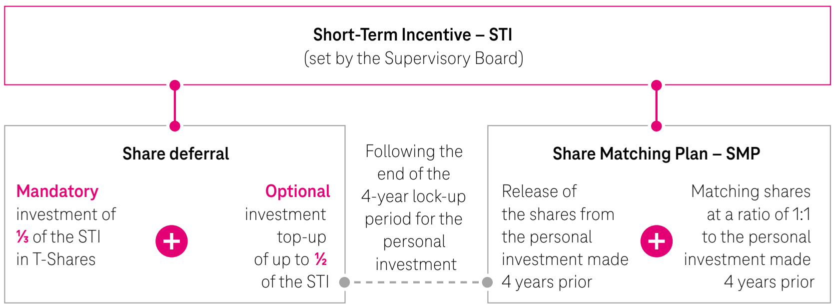
Total remuneration of the members of the Supervisory Board for 2022 amounted to EUR 3.6 million (plus VAT) (2021: EUR 2.8 million (plus VAT)) and comprises fixed annual remuneration plus meeting attendance fees.

Other
The Company has not granted any advances or loans to current or former Board of Management members or to current or former Supervisory Board members, nor were any other financial obligations to the benefit of this group of people entered into.

Detailed information on the remuneration of the Board of Management and the Supervisory Board is published in the separate remuneration report.

46 Share-based payment
Share Matching Plan
Members of the Board of Management have a contractual obligation to invest one third of the Short-Term Incentive (STI) set by the Supervisory Board in shares of Deutsche Telekom AG. There is an option to voluntarily increase the investment volume to up to 50 % of the STI. Deutsche Telekom AG will transfer one additional share for every share acquired as part of this Board of Management member's aforementioned personal investment (Share Matching Plan – SMP) on expiration of the four-year lock-up period starting from the date of purchase. The functioning of STI and SMP is set out in the following chart.

Functioning of the Share Matching Plan and the Short-Term Incentive for Board of Management members



Specific executives are contractually obligated to invest between a minimum of 10 % and a maximum of 50 % of their short-term variable remuneration component, which is based on the achievement of targets set for each person for the financial year (Short-Term Incentive), in Deutsche Telekom AG shares. Deutsche Telekom AG will award one additional share for every share acquired as part of this executive's aforementioned personal investment (Share Matching Plan). These shares will be allotted to the beneficiaries of this plan on expiration of the four-year lock-up period.

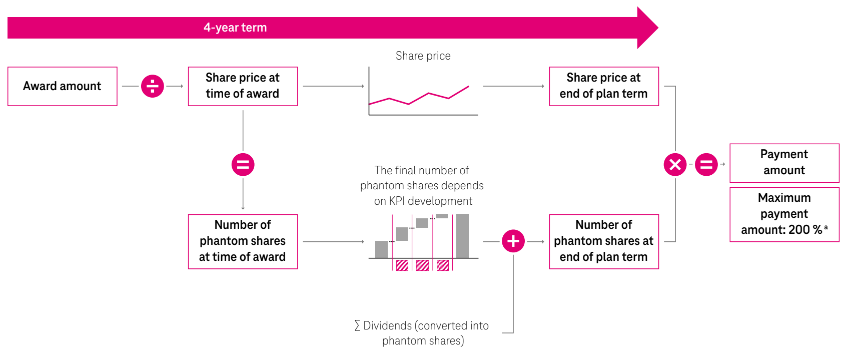
Further executives in certain management groups who were not contractually obligated to participate in the Share Matching Plan are given the opportunity to participate on a voluntary basis. This offer is only made when the Group's free cash flow target for the preceding year has been achieved. To participate, the executives invest between a minimum of 10 % a maximum of 50 % of the target amount (100 %) of the short-term variable remuneration component (Short-Term Incentive) in shares of Deutsche Telekom AG. Deutsche Telekom AG will award additional shares for the shares acquired as part of this executive's aforementioned personal investment (Share Matching Plan). The number of additional shares granted will depend on the management group to which the executive is assigned. The additional shares will be allotted to the beneficiaries of this plan on expiration of the four-year lock-up period.

The individual Share Matching Plans are each recognized for the first time at fair value on the grant date. To determine the fair value, the expected dividend entitlements are deducted from Deutsche Telekom AG's share price, as there are no dividend entitlements until the matching shares have been allocated. In the 2022 financial year, a total of 0.9 million (2021: 0.9 million) matching shares were allocated to beneficiaries of the plan at a weighted average fair value of EUR 15.37 (2021: EUR 13.20). The cost is to be recognized against the capital reserves pro rata temporis until the end of the service period and amounted to EUR 11 million in total for all tranches as of December 31, 2022 (December 31, 2021: EUR 10 million). In the reporting year, reserves were reduced by transfers of shares to plan participants in a total value of EUR 8 million (2021: EUR 6 million). The capital reserves recognized for the Share Matching Plan as of December 31, 2022 amounted to EUR 26 million (December 31, 2021: EUR 23 million).

Long-Term Incentive Plan

Since the introduction of the new Board of Management remuneration system in 2021, Board of Management members also participate in the Group's existing Long-Term Incentive Plan (LTI). The amount of the annual participation is contractually defined individually for each Board of Management member. The functioning of the LTI is summarized below:

Functioning of the Long-Term Incentive Plan for Board of Management members



[a] For members of the Board of Management, the maximum payment amount is set at 200 %.

Executives from the Deutsche Telekom AG Group also participate in the LTI provided they meet certain eligibility requirements or have an individual contractual commitment. At the inception of the plan, the participating executives receive a bundle of phantom shares of Deutsche Telekom AG, the value of which is contingent on the management group to which they have been assigned, and the achievement of the collective targets (financial and strategic targets) of the organizational unit to which the executive belongs. The value of the phantom shares received lies between 10 % and 43 % of the participant's annual target salary.

The initial number of phantom shares is contingent on the share price in a reference period at the inception of the plan. Over the term of the four-year plan, the value of the phantom shares changes in line with Deutsche Telekom AG's share price development. The number of phantom shares will change in line with the achievement of the targets for four equally weighted key performance indicators (return on capital employed, adjusted earnings per share, employee satisfaction, and customer satisfaction), to be determined at the end of each plan year. In addition, a dividend is granted for the phantom shares over the term of the plan. This dividend is reinvested in phantom shares, increasing the number of phantom shares held by each plan participant. At the end of the four-year plan term, the final number of phantom shares will be converted on the basis of a share price calculated in a reference period at the end of the plan and paid out in cash together with the dividend for the last year of the plan, which is not converted into phantom shares.

The individual LTIs are each recognized for the first time at fair value on the grant date. The fair value of a plan is calculated by multiplying the number of phantom shares by Deutsche Telekom AG's share price at the measurement date discounted to the reporting date. For members of the Board of Management of Deutsche Telekom AG, the fair value is calculated on the grant date taking into account a discount for a maximum payment amount of 200 %. This maximum payment amount does generally not apply for other executives. In the 2022 financial year, a total of 4.87 million (2021: 4.93 million) phantom shares were granted at a weighted average fair value of EUR 16.12 (2021: EUR 14.92). A plan must be remeasured at every reporting date until the end of the service period and expensed pro rata temporis. The cost of the LTI plans amounted to EUR 128 million for all tranches in the reporting year (2021: EUR 85 million). In 2022, the provision was utilized in the amount of EUR 59 million (2021: EUR 50 million). In addition, the carrying amount decreased by EUR 5 million as a result of increased interest rates. Following a reclassification of EUR 2 million (2021: EUR 1 million) to liabilities directly associated with non-current assets and disposal groups held for sale, the provision amounted to EUR 248 million as of December 31, 2022 (December 31, 2021: EUR 186 million).

> For detailed information on Board of Management member remuneration, please refer to the remuneration report published separately by the Board of Management and the Supervisory Board.

"Shares2You" shares program for employees

Since the 2021 financial year, employees in Germany, and since the 2022 financial year, employees of some Group companies in other countries have been given the option to voluntarily invest an amount of between EUR 50 and EUR 1,000 per year in shares in Deutsche Telekom AG. Each participating employee receives one additional free share in Deutsche Telekom AG for every two shares acquired by way of this personal investment (Shares2You). The shares acquired by participants, including the free shares, are subject to a four-year lock-up period during which they cannot be sold. The program is not subject to any minimum service period or performance conditions.

The cost for the free shares must be recognized against the capital reserves at the inception of the plan. In 2021, the shares were issued to plan participants before the end of the financial year. A total of 1.0 million free shares were granted at a fair value of EUR 16.72. A corresponding expense of EUR 17.0 million was recognized as of December 31, 2021. A total of 3.1 million shares at a value of EUR 51.1 million were reclassified from treasury shares to the capital reserve as of December 31, 2021, from personal investment and for the free shares.

In 2022, the investment phase for employees in Germany ended later, on December 8, 2022. Employees declared their intention to invest EUR 35 million as personal investment. This resulted in an expense of EUR 17 million for the provision of the free shares. The number of shares and their fair value will be determined on the allocation date February 24, 2023.

In addition, in 2022, Shares2You was introduced in three Group companies in the Czech Republic and Slovakia for the first time. A total of 94,776 shares at a value of EUR 1.8 million were transferred from Deutsche Telekom AG as of November 16, 2022, from the personal investment and for the free shares.

Stock-based compensation at T-Mobile US

Under T-Mobile US' Omnibus Incentive Plan, the company may grant stock options, stock appreciation rights, restricted stock, restricted stock units (RSUs), and performance awards to employees, consultants, advisors, and non-employee directors. As of December 31, 2022, there were around 15 million T-Mobile US shares of common stock (December 31, 2021: 20 million shares) available for future grants under the incentive plan.

T-Mobile US grants RSUs to eligible employees and certain non-employee directors, and performance-based restricted stock units (PRSUs) to eligible key executives of the company. RSUs entitle the grantee to receive shares of T-Mobile US' common stock at the end of a vesting period of up to three years. PRSUs entitle the holder to receive shares of T-Mobile' US common stock at the end of a vesting period of up to three years if a specific performance goal is achieved. The number of shares ultimately received is dependent on the actual performance of T-Mobile US measured against a defined performance target.

The RSU and PRSU plans resulted in the following share-related development:

Time-based restricted stock units and restricted stock awards (RSUs)

	Number of shares	Weighted average grant-date fair value USD
Non-vested as of January 1, 2022	**8,893,288**	**105.96**
Granted	5,638,899	126.31
Vested	(4,965,728)	99.96
Forfeited	(1,193,400)	120.87
Non-vested as of December 31, 2022	**8,373,059**	**121.09**

Performance-based restricted stock units (PRSUs)

	Number of shares	Weighted average grant-date fair value USD
Non-vested as of January 1, 2022	**1,889,557**	**108.97**
Granted	242,163	154.53
Adjustments[a]	89,975	88.59
Vested	(831,163)	94.79
Forfeited	(29,749)	123.11
Non-vested as of December 31, 2022	**1,360,783**	**124.09**

[a] Relates to PRSUs granted before 2022, for which the vesting period had expired in 2022 and which resulted in the issue of additional shares. These PRSUs are also included under PRSUs vested in 2022 and as such are a component of the item "Vested".

The program is measured at fair value on the grant date and recognized as expense, net of expected forfeitures, following a graded vesting schedule over the related service period. The fair value of stock awards for the RSUs is based on the closing price of T-Mobile US' common stock on the date of grant. The fair value of stock awards for the PRSUs was determined using the Monte Carlo model. Stock-based compensation expense was EUR 655 million as of December 31, 2022 (December 31, 2021: EUR 540 million).

The outstanding stock options mainly relate to the stock option plans of MetroPCS and Sprint, both of which were set up prior to the business combinations with T-Mobile US. No new awards may be granted under these plans.

The plans resulted in the following development of the T-Mobile US stock options:

	Number of shares	Weighted average exercise price USD	Weighted average remaining contractual term (years)
Stock options outstanding at January 1, 2022	**695,844**	**53.01**	**3.3**
Exercised	(150,112)	45.96	
Forfeited/canceled	(1,260)	25.95	
Stock options outstanding at December 31, 2022	**544,472**	**55.02**	**2.4**
Stock options exercisable at December 31, 2022	544,472	55.02	2.4

The exercise of stock options generated cash inflows of EUR 7 million (USD 7 million) in the 2022 financial year (2021: EUR 9 million (USD 10 million)).

47 Declaration of conformity with the German Corporate Governance Code in accordance with § 161 AktG

In accordance with § 161 AktG, the Board of Management and the Supervisory Board of Deutsche Telekom AG have submitted the mandatory Declaration of Conformity and made it available to shareholders on Deutsche Telekom AG's website. The full text of the Declaration of Conformity is available on the Deutsche Telekom website.

Declaration of Conformity

48 Events after the reporting period

Sale of shares in GD tower companies. Deutsche Telekom has agreed the partial sale of its cell tower business in Germany and Austria (GD tower companies). On February 1, 2023, the sale of 51.0 % of the shares in the GD tower companies to DigitalBridge and Brookfield was consummated in accordance with the agreement dated July 13, 2022. All necessary regulatory approvals had been duly granted and all other closing conditions met.

For further information, please refer to the section "Changes in the composition of the Group and other transactions" under "Summary of accounting policies."

Buy-back of bonds by Deutsche Telekom. On February 1, 2023, Deutsche Telekom prematurely bought back EUR and GBP bonds with a total volume of EUR 2.7 billion with terms ending between 2023 and 2027. Part of the funds received from the sale of shares in the GD tower companies was used for the buy-back.

Proceedings against T-Mobile US in consequence of the cyberattack on T-Mobile US in January 2023.

For information, please refer to Note 39 "Contingencies."

T-Mobile US share buy-back program continued. In the period from January 1, 2023 to February 10, 2023, T-Mobile US bought back around 15 million additional shares with a total volume of around USD 2 billion (around EUR 2 billion) under the share buy-back program.

For further information on the share buy-back program, please refer to the section "Other transactions that had no effect on the composition of the Group" under "Summary of accounting policies."

Issue of USD bonds by T-Mobile US. On February 9, 2023, T-Mobile US issued senior notes with a total volume of USD 3.0 billion (EUR 2.8 billion) with terms ending between 2028 and 2053 and bearing interest of between 4.950 % and 5.650 %. T-Mobile US intends to use the proceeds from the issuance of the senior notes for general business purposes, including further share buy-backs and the ongoing refinancing of existing debt.

49 Auditor's fees and services in accordance with § 314 HGB

Deloitte GmbH, Düsseldorf, member of the German Chamber of Public Accountants in Berlin, has been the independent auditor of the Company since the 2022 financial year. The responsible auditor at Deloitte is Dr. Tim Hoffmann.

The following table provides a breakdown of the auditor's professional fees recognized as expenses in the 2022 financial year:

millions of €	2022
Auditing services	14
Other assurance services	1
Tax advisory services	0
Other non-audit services	0
	15

Professional fees for auditing services include in particular fees for the statutory auditing of annual and consolidated financial statements and the subsidiaries included in the consolidated financial statements, fees for the review of the interim financial statements, and fees for other auditing services.

The fees recognized under other assurance services mainly relate to services in the context of assurance engagements with regard to the non-financial statement and to compliance and information systems.

In the 2021 financial year, the fees for the auditor of the consolidated financial statements included EUR 14 million for auditing services, EUR 1 million for other assurance services, EUR 0 million for tax advisory services, and EUR 0 million for other services. In the 2021 financial year, PricewaterhouseCoopers Gesellschaft mit beschränkter Haftung, Wirtschaftsprüfungsgesellschaft (PwC), Frankfurt/Main, audited the Company's financial statements.

Bonn, February 14, 2023

Deutsche Telekom AG
The Board of Management

Timotheus Höttges

Adel Al-Saleh   Birgit Bohle   Srini Gopalan   Dr. Christian P. Illek

Thorsten Langheim   Dominique Leroy   Claudia Nemat

Responsibility statement

To the best of our knowledge, and in accordance with the applicable reporting principles, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position, and profit or loss of the Group, and the Group management report, which is combined with the management report of Deutsche Telekom AG, includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal opportunities and risks associated with the expected development of the Group.

Bonn, February 14, 2023

Deutsche Telekom AG
The Board of Management

Timotheus Höttges

Adel Al-Saleh | Birgit Bohle | Srini Gopalan | Dr. Christian P. Illek

Thorsten Langheim | Dominique Leroy | Claudia Nemat