

CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED FINANCIAL STATEMENTS OF COVESTRO AG

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COVESTRO GROUP CONSOLIDATED INCOME STATEMENT

	Note	2020	2021
		€ million	€ million
Sales	6	10,706	15,903
Cost of goods sold		(8,207)	(11,475)
Gross profit		2,499	4,428
Selling expenses		(1,195)	(1,428)
Research and development expenses		(262)	(341)
General administration expenses		(310)	(415)
Other operating income	7	63	99
Other operating expenses	8	(99)	(81)
EBIT¹		696	2,262
Equity-method loss		(13)	(15)
Result from other affiliated companies		1	2
Interest income		26	38
Interest expense		(73)	(79)
Other financial result		(32)	(23)
Financial result	10	(91)	(77)
Income before income taxes		605	2,185
Income taxes	11	(151)	(566)
Income after income taxes		454	1,619
of which attributable to noncontrolling interest		(5)	3
of which attributable to Covestro AG shareholders (net income)		459	1,616
		€	€
Basic earnings per share²	12	2.48	8.37
Diluted earnings per share²	12	2.48	8.37

¹ EBIT: income after income taxes plus financial result and income tax.

² Earnings per share: According to IAS 33 (Earnings per Share), earnings per share comprise net income divided by the weighted average number of outstanding no-par voting shares of Covestro AG. The calculation for fiscal 2021 was based on 193,165,396 no-par value shares (previous year: 184,912,207). For more information, see note 12 "Earnings per Share."

COVESTRO GROUP CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

	Note	2020	2021
		€ million	€ million
Income after income taxes		454	1,619
Remeasurements of the net defined benefit liability for post-employment benefit plans	20	(130)	510
Income taxes	11	48	(161)
Other comprehensive income from remeasurements of the net defined benefit liability for post-employment benefit plans		(82)	349
Changes in fair values of equity instruments	24	1	13
Income taxes	11	–	(4)
Other comprehensive income from equity instruments		1	9
Other comprehensive income that will not be reclassified subsequently to profit or loss		(81)	358
Exchange differences of foreign operations		(210)	367
Reclassified to profit or loss		–	–
Other comprehensive income from exchange differences		(210)	367
Other comprehensive income that may be reclassified subsequently to profit or loss		(210)	367
Total other comprehensive income		(291)	725
of which attributable to noncontrolling interest		(3)	2
of which attributable to Covestro AG shareholders		(288)	723
Total comprehensive income		163	2,344
of which attributable to noncontrolling interest		(8)	5
of which attributable to Covestro AG shareholders		171	2,339

COVESTRO GROUP CONSOLIDATED STATEMENT OF FINANCIAL POSITION

	Note	Dec. 31, 2020	Dec. 31, 2021
		€ million	€ million
Noncurrent assets			
Goodwill	13	255	757
Other intangible assets	13	109	706
Property, plant and equipment	14	5,175	6,032
Investments accounted for using the equity method	15	173	172
Other financial assets	16	32	49
Other receivables	18	65	76
Deferred taxes	11	925	818
		6,734	8,610
Current assets			
Inventories	17	1,663	2,914
Trade accounts receivable		1,593	2,343
Other financial assets	16	1,144	493
Other receivables	18	295	434
Claims for income tax refunds		55	128
Cash and cash equivalents		1,404	649
Assets held for sale		36	–
		6,190	6,961
Total assets		12,924	15,571
Equity	19		
Capital stock of Covestro AG		193	193
Capital reserves of Covestro AG		3,925	3,927
Other reserves		1,489	3,576
Equity attributable to Covestro AG shareholders		5,607	7,696
Equity attributable to noncontrolling interest		37	66
		5,644	7,762
Noncurrent liabilities			
Provisions for pensions and other post-employment benefits	20	2,123	1,199
Other provisions	21	218	223
Financial liabilities	22	2,277	2,349
Income tax liabilities	11	88	98
Other liabilities	23	31	34
Deferred taxes	11	179	300
		4,916	4,203
Current liabilities			
Other provisions	21	155	637
Financial liabilities	22	622	192
Trade accounts payable		1,241	2,214
Income tax liabilities	11	74	239
Other liabilities	23	262	324
Liabilities directly related to assets held for sale		10	–
		2,364	3,606
Total equity and liabilities		12,924	15,571

COVESTRO GROUP CONSOLIDATED STATEMENT OF CASH FLOWS

	Note	2020	2021
		€ million	€ million
Income after income taxes		454	1,619
Income taxes		151	566
Financial result		91	77
Income taxes paid		(155)	(546)
Depreciation, amortization, impairment losses and impairment loss reversals		776	823
Change in pension provisions		25	31
(Gains)/losses on retirements of noncurrent assets		8	(3)
Decrease/(increase) in inventories		160	(987)
Decrease/(increase) in trade accounts receivable		(106)	(462)
(Decrease)/increase in trade accounts payable		(154)	722
Change in other working capital/other noncash items		(16)	353
Cash flows from operating activities	27.1	1,234	2,193
Cash outflows for additions to property, plant, equipment and intangible assets		(704)	(764)
Cash inflows from sales of property, plant, equipment and other assets		6	11
Cash inflows from divestments less divested cash		(3)	12
Cash outflows for noncurrent financial assets		(16)	(34)
Cash inflows from noncurrent financial assets		7	25
Cash outflows for acquisitions less acquired cash		–	(1,469)
Interest and dividends received		30	36
Cash outflows for other current financial assets/ Cash inflows from other current financial assets		(1,089)	188
Cash flows from investing activities	27.2	(1,769)	(1,995)
Capital contributions		444	–
Reissuance of treasury shares		4	2
Dividend payments and withholding tax on dividends		(221)	(262)
Issuances of debt		1,775	51
Retirements of debt		(719)	(675)
Interest paid		(79)	(81)
Cash flows from financing activities	27.3	1,204	(965)
Change in cash and cash equivalents due to business activities		669	(767)
Cash and cash equivalents at beginning of year		748	1,404
Change in cash and cash equivalents due to changes in scope of consolidation		1	–
Change in cash and cash equivalents due to exchange rate movements		(14)	12
Cash and cash equivalents at end of year		1,404	649

COVESTRO GROUP CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

	Capital stock of Covestro AG	Capital reserves of Covestro AG	Retained earnings incl. total income	Accumulated other com- prehensive income	Equity attributable to Covestro AG shareholders	Equity attributable to noncontrolling interest	Equity
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Dec. 31, 2019	183	3,487	1,122	415	5,207	47	5,254
Capital increase ¹	10	434			444		444
Issuance of treasury shares	–	5			5		5
Dividend payments			(219)		(219)	(2)	(221)
Other changes ²		(1)			(1)	–	(1)
Income after income taxes			459		459	(5)	454
Other comprehensive income			(82)	(206)	(288)	(3)	(291)
Total comprehensive income			377	(206)	171	(8)	163
Dec. 31, 2020	193	3,925	1,280	209	5,607	37	5,644
of which treasury shares	–	(2)			(2)		(2)
Dec. 31, 2020	193	3,925	1,280	209	5,607	37	5,644
Issuance of treasury shares	–	2			2		2
Dividend payments			(251)		(251)	(11)	(262)
Other changes ³		–	(1)		(1)	35	34
Income after income taxes			1,616		1,616	3	1,619
Other comprehensive income			358	365	723	2	725
Total comprehensive income			1,974	365	2,339	5	2,344
Dec. 31, 2021	193	3,927	3,002	574	7,696	66	7,762
of which treasury shares	–	–			–		–

¹ After deduction of the costs of raising equity.

² Other changes in fiscal 2020 include the difference between the historical cost of treasury shares and the issue price in November 2020.

³ Other changes in fiscal 2021 include the dilution of the Group's share resulting from a share deal due to additional noncontrolling interests.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS OF THE COVESTRO GROUP

Principles and Methods

1. General Information

Covestro AG (registered at the district trade register, or Amtsgericht, for Cologne, number: HRB 85281) is a stock exchange-listed corporation headquartered at Kaiser-Wilhelm-Allee 60, 51373 Leverkusen (Germany), (Covestro AG). The consolidated financial statements of Covestro AG as of December 31, 2021, cover Covestro AG and its subsidiaries, joint arrangements and associated companies. They have been prepared according to the International Financial Reporting Standards (IFRSs) of the International Accounting Standards Board (IASB), London (United Kingdom), as endorsed by the European Union (EU) and in effect at the reporting date, the Interpretations (IFRICs) of the IFRS Interpretations Committee (IFRS IC) and the Interpretations published by the Standing Interpretations Committee (SIC), as well as the additional requirements of German commercial law pursuant to Section 315e (1) of the German Commercial Code (HGB) for the exempting IFRS consolidated financial statements.

The declaration pertaining to the German Corporate Governance Code pursuant to Section 161 of the German Stock Corporation Act (AktG) has been issued and made available to shareholders.

If certain items in the income statement, statement of comprehensive income, statement of financial position, statement of cash flows and statement of changes in equity of the Covestro Group are condensed for the sake of clarity, this is explained in the notes. The income statement has been prepared using the cost-of-sales method. Assets and liabilities are classified by maturity. They are classified as current if they mature or are intended for sale within one year or within the normal business cycle of the Covestro Group. Trade accounts receivable and payable, inventories, and assets held for sale are consistently presented as current. Deferred tax assets, deferred tax liabilities and pension provisions are consistently presented as noncurrent.

The consolidated financial statements are drawn up in euros. Amounts are stated in millions of euros (€ million) unless otherwise noted.

Exchange Rates

In the reporting period, the following exchange rates were used for the major currencies of relevance from the Covestro Group's perspective:

Average rates for major currencies

		Average rates	
€1/		2020	2021
BRL	Brazil	5.80	6.37
CNY	China	7.87	7.63
HKD	Hong Kong ¹	8.84	9.19
INR	India	84.43	87.43
JPY	Japan	121.72	129.82
MXN	Mexico	24.35	23.98
USD	United States	1.14	1.18

Closing rates for major currencies

		Closing rates	
€1/		2020	2021
BRL	Brazil	6.37	6.31
CNY	China	7.98	7.20
HKD	Hong Kong ¹	9.51	8.83
INR	India	89.66	84.23
JPY	Japan	126.49	130.38
MXN	Mexico	24.42	23.14
USD	United States	1.23	1.13

¹ Special Administration Region (China)

2. Effects of New Financial Reporting Standards

2.1 Financial Reporting Standards Applied for the First Time in the Reporting Period

IFRS pronouncement (published on)	Title	Effective for annual periods beginning on or after
Amendments to IFRS 4 (June 25, 2020)	Extension of the Temporary Exemption from Applying IFRS 9	January 1, 2021
Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 (August 27, 2020)	Interest Rate Benchmark Reform – Phase 2	January 1, 2021
Amendments to IFRS 16 (March 31, 2021)	Covid 19-Related Rent Concessions	April 1, 2021

Initial application of the standards listed in the table had no or no material impact on the presentation of the net assets, financial position and results of operations of the Covestro Group.

2.2 Published Financial Reporting Standards that have not yet been Applied

The IASB and the IFRS IC have issued the following standards, amendments to standards, and interpretations whose application for fiscal 2021 is not yet mandatory.

IFRS pronouncement (published on)	Title	Effective for annual periods beginning on or after
Endorsed by the EU		
Amendments to IFRS 3 (May 14, 2020)	Reference to the Conceptual Framework	January 1, 2022
Amendments to IAS 16 (May 14, 2020)	Property, Plant and Equipment – Proceeds before Intended Use	January 1, 2022
Amendments to IAS 37 (May 14, 2020)	Onerous Contracts – Cost of Fulfilling a Contract	January 1, 2022
Annual Improvements to IFRSs (May 14, 2020)	2018–2020 Cycle	January 1, 2022
IFRS 17 (May 18, 2017)	Insurance Contracts	January 1, 2023
Amendments to IFRS 17 (June 25, 2020)	Amendments to IFRS 17 – Insurance Contracts	January 1, 2023

The application of the following other standards, amendments to standards, and interpretations issued by the IASB and IFRS IC is conditional upon their endorsement by the European Union (EU). The effective date for the standards is assumed to be the effective date designated by the IASB.

IFRS pronouncement (published on)	Title	Effective for annual periods beginning on or after
Not yet endorsed by the EU		
Amendments to IAS 1 (January 23, 2020, and July 15, 2020)	Classification of Liabilities as Current or Non-current and Classification of Liabilities as Current or Non-current – Deferral of Effective Date	January 1, 2023
Amendments to IAS 1 and the practice statement (February 12, 2021)	Disclosure of Accounting Policies (Amendments to IAS 1 and IFRS Practice Statement 2)	January 1, 2023
Amendments to IAS 8 (February 12, 2021)	Definition of Accounting Estimates (Amendments to IAS 8)	January 1, 2023
Amendments to IAS 12 (May 7, 2021)	Deferred Tax related to Assets and Liabilities arising from a Single Transaction	January 1, 2023
Amendments to IFRS 17 (December 9, 2021)	Initial Application of IFRS 17 and IFRS 9 – Comparative Information	January 1, 2023

The effects of the initial application of the financial reporting standards described below are currently being reviewed. At the time the financial statements were prepared, no material impact on the presentation of the net assets, financial position, and results of operations of the Covestro Group was expected. According to the analysis as it stands currently, initial application of the other standards listed in the table will have no effect on the presentation of the net assets, financial position, and results of operations of the Covestro Group.

On January 23, 2020, the IASB published "Classification of Liabilities as Current or Non-current," an amendment to IAS 1 (Presentation of Financial Statements) that clarifies when a liability with an uncertain settlement date is classified as current or noncurrent in the statement of financial position. Due to the added pressure on companies from the coronavirus pandemic and the possible renegotiation of loans, the IASB issued an amendment to this publication on July 15, 2020, deferring the effective date by one year to January 1, 2023 (previously: January 1, 2022). The amendment must be applied retrospectively.

On February 12, 2021, the IASB issued additional amendments to IAS 1, "Disclosure of Accounting Policies (Amendments to IAS 1 and IFRS Practice Statement 2)," along with an amendment to the relevant practice statement. These amendments require all companies to disclose those material accounting policies in their notes to the consolidated financial statements that are relevant for understanding the financial statements and the underlying transactions ("material accounting policies"), for example in the case of (de facto) accounting options for material individual items in the group, rather than their significant accounting policies in general. Accounting policies are significant, for example, when they relate to high-value positions such as pension provisions, but the standard on which they are based specifies clear accounting policies that apply to every entity. The amendments to IFRS Practice Statement 2 provide guidelines for the application of this materiality concept.

Also on February 12, 2021, the IASB issued amendments to IAS 8 (Accounting Policies, Changes in Accounting Estimates and Errors) under the title "Definition of Accounting Estimates (Amendments to IAS 8)." These amendments are intended to clarify the distinction between changes in accounting policies and changes in accounting estimates. This distinction is generally relevant since changes in accounting policies are, subject to transitional provisions, always applied retrospectively to consolidated financial statements, while changes in accounting estimates are only applied prospectively from the date of the change in estimates.

On May 7, 2021, the IASB issued "Deferred Tax related to Assets and Liabilities arising from a Single Transaction," which contains amendments to IAS 12 (Income Taxes). This amendment clarifies that deferred tax assets and liabilities have to be recognized when a transaction gives rise to equal amounts of deductible and taxable temporary differences at the same time. The initial recognition exemption providing that no deferred tax assets or liabilities are to be recognized at the acquisition date of an asset or liability is no longer applicable to such transactions. The amendment has no effect on the presentation of the net assets, financial position, and results of operations of the Covestro Group, since the exemption is not applied at this time.

3. Accounting Policies and Valuation Principles

Covestro's consolidated financial statements are based on the principle of the historical cost of acquisition or production. Exceptions are items measured at fair value, such as certain financial assets, assets held for sale, plan assets, and reportable derivatives.

In preparing the consolidated financial statements, Covestro management has to make assumptions and estimates to a certain extent that may substantially impact the presentation of the Covestro Group's net assets, financial position, and results of operations and could deviate from the actual results. Such assumptions, estimates, and the exercise of discretion mainly relate to the following areas: defining the useful life of noncurrent assets, calculating the discounted cash flows used for impairment testing to be conducted at least annually, purchase price allocations, accounting for income taxes, the assessment of the amount of deferred tax assets recoverable in future periods as well as the recognition of provisions, (e.g., for litigation-related expenses, pensions and other employee benefits, other taxes, environmental compliance and remediation costs, and product liability). Covestro continually monitors changes in legislation connected with climate change. Currently, no laws have been passed that directly or indirectly have a material impact on the notes to the consolidated financial statements. The Group will adjust the basic principles underlying the assumptions made as necessary. In addition, Covestro's management must decide which information is relevant for readers of the IFRS consolidated financial statements and should be included in the notes. Information about exercising discretion in the application of accounting policies that most significantly affect the amounts reported in the consolidated financial statements, and about estimates and assumptions, is disclosed in the following notes.

Consolidation

As of December 31, 2021, the direct and indirect subsidiaries of Covestro AG were fully consolidated in accordance with the principles of IFRS 10 (Consolidated Financial Statements). In addition, joint arrangements as defined by IFRS 11 (Joint Arrangements) were classified as joint operations and consolidated proportionately in the consolidated financial statements, or classified as joint ventures and accounted for in the same way as associated companies using the equity method in accordance with IAS 28 (Investments in Associates and Joint Ventures).

 See note 5.1 "Scope of consolidation and investments."

Joint Operations and Joint Ventures

Joint operations and joint ventures are based on joint arrangements. A joint arrangement is deemed to exist if Covestro AG, through a contractual agreement, indirectly or directly jointly controls an activity together with one or more third parties. Joint control is only deemed to exist if decisions regarding the relevant activities require the unanimous consent of the parties sharing control.

A joint operation is a joint arrangement whereby the parties that have joint control over the arrangement have rights to the assets attributable to the arrangement and obligations with regard to the liabilities attributable to the arrangement. The Covestro Group recognizes the share of assets, liabilities, revenues and expenses in accordance with its rights and obligations in a joint operation.

A joint venture is a joint arrangement whereby the parties that have joint control over the arrangement have rights to the net assets of the arrangement. Joint ventures are accounted for using the equity method.

Associates over which Covestro AG is able to exercise significant influence, directly or indirectly, generally through an ownership interest between 20% and 50%, are also accounted for using the equity method.

Change in Ownership Interest

A change in the interest in a subsidiary without acquiring or relinquishing control is accounted for as an equity transaction.

If the Group loses control over a subsidiary, then the associated assets (including proportional goodwill), liabilities, noncontrolling interests, and other equity items are derecognized. Any resulting gain or loss is recognized in the income statement, and any equity interest retained is measured at fair value on this date and recognized. In the event of joint control, the aforementioned provisions would be applied to joint operations and joint ventures. If the Group maintains significant influence, then as a rule, the equity interest in the associated company continues to be accounted for using the equity method.

Currency Translation

The financial statements of the individual companies for inclusion in the consolidated financial statements are prepared in their respective functional currencies. The majority of consolidated companies carry out their activities autonomously from a financial, economic and organizational point of view, and their functional currencies are therefore the respective local currencies.

In the separate financial statements of the foreign companies, receivables and liabilities in currencies other than the respective functional currency are translated at closing rates. Related exchange differences are recognized in profit or loss and recorded as exchange gains or losses under other financial result.

In the consolidated financial statements, the assets and liabilities of Covestro companies outside the eurozone are translated into euros at closing rates at the start and end of the reporting period, while income and expense items and cash flows are translated into euros at average rates. Equity items are translated at historical rates. Foreign currency differences resulting from the translation of the financial statements of foreign companies are recognized directly in equity in the currency translation reserve.

Sales and Other Operating Income

All revenues from customer contracts, such as the selling of products or rendering of services, or from licensing agreements, are recognized as sales. Other operational revenues are recognized as other operating income.

In principle, the amount of consideration from a contract with a customer to which Covestro expects to be entitled in exchange for the transfer of goods or services is recognized as sales when the customer obtains control of the corresponding goods or services.

Sales are generated primarily from the sale of chemical products. In most cases, control over these products is transferred to the customer at a point in time.

Depending on the contractual agreements made and transportation clauses agreed upon with the customer, in the majority of cases control is transferred to the customer upon delivery at the place of destination, furthermore at the point in time of collection by the customer or upon handover to the freight carrier. In some cases, sales are made through consignment warehouses in which customers primarily obtain control over the delivered goods upon delivery to the consignment warehouse.

In principle, control is considered to be transferred when the customer can direct the use of the product to be delivered and obtain substantially all of the remaining benefits from the product, while this is no longer possible for Covestro.

Determining the point in time of the transfer of control involves considering additional indicators. In particular, it is considered at which point in time Covestro has a present right to payment for the product and when physical possession of the product or, in a broader sense, the possibility of sole access to the product, is transferred to the customer. Depending on the transportation clauses, the possibility of sole access to the product may be transferred even prior to arrival or physical handover of the product to the customer. Furthermore, the point in time when the legal title passes to the customer is also considered to the extent that it constitutes more than a protective right. The point in time when the significant rewards and risks of ownership of a product are transferred to the customer is usually linked closely with the aforementioned indicators and is therefore considered with

these. Based on experience, it is assumed that products sold fulfill the agreed-upon specifications, thus acceptance by the customer is an indicator that does not generally affect the point in time at which control is transferred.

As a result, depending on the contractual agreements made and transportation clauses agreed upon with the customer, the point in time of the transfer of control is determined.

In the case of products sold through a consignment warehouse, the customer generally obtains physical possession of this product upon delivery to the consignment warehouse. In addition, the right to payment for the delivered goods generally arises upon delivery. To the extent that the other three indicators do not lead to a contrary conclusion, control of the products in the case of a sale through a consignment warehouse transfers to the customer upon delivery to the consignment warehouse. The corresponding sales are therefore realized at the time of delivery.

Certain products are only sold to one customer. Some of these customer-specific products have no alternative use for Covestro. Insofar as Covestro has an enforceable right to payment for performance completed to date, sales are recognized on the basis of progress towards complete satisfaction of the performance obligation. As a rule, control over an individual customer-specific product is considered to be transferred when the generally short production process is completed successfully and the product has been tested to confirm that the agreed-upon specifications have been met.

To the extent that, for certain types of performance obligations that are satisfied over time, there is a right to consideration in an amount that corresponds directly with the value of the performance provided by Covestro to date, revenue will normally be realized in the amount to which Covestro has a right to invoice.

Invoices are usually payable in 0 to 90 days. Contracts may contain early payment discounts or rebates. Rebates are generally retroactively granted sales- or volume-dependent rebates based on the sales or volume of a period customarily spanning up to 12 months. Some contracts include pricing formulas used to determine the billable price at the time of delivery. Moreover, the final prices for certain contracts with customers are not yet fixed at the time of transfer of control. Instead, provisional prices are billed initially.

Sales are recognized in the amount of the transaction price that Covestro is expected to receive. Sales do not include amounts collected on behalf of third parties (e.g., sales tax). Where consideration includes a variable component, for example due to the contract clauses described, this component of the consideration is estimated either based on the expected value method or the most likely amount. The method producing the best estimate is used in this case. However, variable consideration is only taken into account to the extent it is not constrained as defined by IFRS 15 (Revenue from Contracts with Customers). Variable consideration is not constrained if it is highly probable that a significant reversal in the amount of sales will not occur when the corresponding uncertainty is subsequently resolved. The transaction price of a contract is allocated to the performance obligations therein using the relative stand-alone selling prices, which generally correspond to the agreed upon prices. If the conditions are met, variable amounts are completely allocated to individual performance obligations.

Refund liabilities result particularly from rebates granted and total the amount of the rebate expected to be refunded, which is calculated based on the methods described. The rebate deemed to be due is reported in other liabilities under refund liabilities until payment.

As a rule, no warranties are issued beyond normal warranties that products will fulfill the agreed-upon specifications.

In the case of contracts with customers, Covestro generally does not expect more than one year to pass between the transfer of a product to a customer and the payment thereof. As a result, the agreed consideration is not adjusted for significant financing components. When incremental costs of obtaining a contract arise, these are immediately recognized as expenses, if the potential amortization period is one year or less.

Government Grants

Asset-related grants from third parties, such as investment grants, are disclosed under **other receivables and liabilities**. Emission rights granted free of payment by government authorities are recognized in the balance sheet at zero euros or at a reminder value. Emission rights acquired in the market in return for payment are capitalized at cost of acquisition and, if the fair value is lower than the acquisition cost, are impaired. Emissions caused generally result in return obligations which have to be recognized.

Research and Development Expenses

Research and development expenses are incurred in the Covestro Group for in-house research and development activities as well as research and development collaborations and alliances with third parties.

According to IFRSs, research costs cannot be capitalized. Development costs, on the other hand, must be capitalized according to closely defined conditions. An intangible asset must be recognized if there is reasonable certainty of receiving future cash flows that will cover an asset's carrying amount. Covestro's development projects are often subject to uncertainties, so the conditions for the capitalization of development costs are normally not satisfied. Each project or contract is reviewed to determine potential capitalization requirements. The recognition, measurement, and presentation rules for other intangible assets apply where development costs are capitalized.

Income Taxes

Income taxes comprise the taxes levied on taxable income in the individual countries along with changes in deferred tax assets and liabilities that are recognized in profit or loss. The income taxes recognized are reflected at the amounts likely to be payable or reimbursable under the statutory regulations in force, or already enacted in relation to future periods, at the end of the reporting period.

As a rule, deferred taxes are recognized in profit or loss. However, if deferred taxes relate to items recognized outside profit or loss in equity, they, too, are recognized outside profit or loss.

The probability that deferred tax assets resulting from temporary differences, tax credits or loss carryforwards can be utilized in the future is the subject of forecasts by the individual companies regarding the future earnings situation in the respective Covestro companies and other parameters.

Deferred tax liabilities are recognized on planned dividend payments by subsidiaries. Where no dividend payment or disposal of corresponding equity investments is planned for the foreseeable future, no deferred tax liability is recognized on the difference between the proportionate equity according to IFRSs and the tax base of the carrying amount of the investment in the subsidiary (outside basis differences).

The expected effects of uncertain deferred and actual income tax positions are estimated in accordance with IFRIC 23 (Uncertainty over Income Tax Treatments) either based on the expected value method or the most likely amount. The method producing the best estimate is used in this case. Tax audits in which the relevant tax authority could take a view differing from Covestro's legal position are by far the most important sources of estimation uncertainties for uncertain tax positions. Uncertain tax positions are accounted for under the assumption that the tax authorities will investigate all relevant matters and have all relevant information at their disposal.

Acquisition Accounting and Goodwill

Businesses acquired are accounted for pursuant to IFRS 3 (Business Combinations) using the acquisition method, which requires that all identifiable assets acquired and all (contingent) liabilities assumed be recognized and measured at their respective fair values on the date control is obtained. Ancillary acquisition costs are recognized as expenses in the periods in which they occur. If the purchase price or the consideration transferred exceeds the value of the equity acquired, goodwill is recognized. If the value of the equity acquired exceeds the purchase price or the consideration transferred by the acquirer, the difference is recognized in profit or loss after an additional review. Goodwill is not amortized. Its carrying amount is subjected to impairment testing annually or more often if there is any indication of possible impairment. Detailed explanations of impairment testing can be found under "Impairment Testing" in this note. Once an impairment loss has been recognized on goodwill, it generally cannot be reversed in subsequent periods. In the event of a restructuring, e.g., the reorganization of financial reporting processes, or external portfolio divestments, any associated goodwill is reallocated or only derecognized in part according to the relative fair value principle.

The Covestro Group recognizes the components of noncontrolling interests in the acquiree either at fair value or at the noncontrolling interest's proportionate share of the acquiree's identified net assets. The Covestro Group exercises this option separately for each business combination in accordance with the standard.

Other Intangible Assets (Excluding Goodwill)

Other intangible assets are identifiable nonmonetary assets without physical substance, other than goodwill (such as software, rights, or capitalized development costs). Other intangible assets, such as individually acquired patents and technologies, are recognized at the cost of acquisition or production. Patents and technologies, licenses, and customer contracts acquired as part of a business combination are recognized at fair value as of the acquisition date and are amortized using the straight-line method if their useful life can be determined. The following useful lives are applicable, except where the actual depletion demands a different amortization pattern.

Useful life of other intangible assets

Patents and technologies	3 to 20 years
Production rights, trademarks and licenses	10 to 20 years
Customer relationships and distribution rights	7 to 20 years
Software	3 to 4 years
Other rights and assets	max. 20 years

Determination of the expected useful lives of other intangible assets is based on estimates of the period for which they will generate cash flows.

Other intangible assets with an indefinite useful life and other intangible assets recognized, but not yet available for use, with a specified useful life are regularly tested for impairment, like goodwill.

Property, Plant and Equipment

Property, plant and equipment are carried at the cost of acquisition or construction and depreciated by the straight-line method over the expected useful life. If necessary, the carrying amount is reduced by impairment losses or increased by impairment loss reversals. Right-of-use assets recognized in accordance with IFRS 16 (Leases) are also included in property, plant and equipment. The residual values and useful lives of assets are regularly reviewed and adjusted for expected changes as necessary.

If the construction phase or manufacturing process of property, plant or equipment extends over a period of 12 months or more, the interest incurred on borrowed capital up to the date of completion is capitalized as part of the cost of acquisition or construction in accordance with IAS 23 (Borrowing Costs).

Costs for regular, comprehensive maintenance work (such as the major overhaul of a technical facility) are capitalized as a separate component if they satisfy special recognition criteria.

The following depreciation periods are generally applied throughout the Covestro Group:

Useful life of property, plant and equipment

Buildings	20 to 50 years
Infrastructure	10 to 20 years
Storage tanks and pipelines	10 to 20 years
Plant installations	6 to 20 years
Machinery and equipment	6 to 12 years
Furniture and fixtures	4 to 10 years
Vehicles	5 to 8 years
Computer equipment	3 to 5 years
Laboratory and research facilities	3 to 5 years

Significant asset components with different useful lives are accounted for and depreciated separately.

When assets are sold, closed down, or scrapped, the difference between the recoverable amount, which normally amounts to the fair value less costs of disposal, and the net carrying amount of the assets is recognized as a gain or loss in other operating income or expenses, respectively.

Inventories

Inventories are recognized at their cost of acquisition or production (production-related full cost) – calculated by the weighted-average method – or at their net realizable value, whichever is lower. The net realizable value is the estimated selling price in the ordinary course of business less estimated cost to complete and selling expenses. Impairment losses on inventories are recognized if their net realizable value on the reporting date is lower than the value calculated using the weighted-average method. Impairment losses are reversed if the net recoverable amount subsequently exceeds the carrying amount.

Financial Instruments

Contracts are recognized as financial instruments in the financial statements which simultaneously give rise to a financial asset at one entity while resulting in a financial liability or equity instrument at another entity. Accordingly, financial assets are recognized in the consolidated financial statements if the Covestro Group has a contractual right to receive cash or other financial assets from another entity. Regular-way purchases and sales of financial assets are generally posted on the settlement date. Financial liabilities are initially recognized in the consolidated financial statements if Covestro has a contractual obligation to transfer cash or other financial assets to another entity. With the exception of trade accounts receivable, financial instruments are measured at fair value plus directly attributable transaction costs upon initial recognition. For financial instruments measured at fair value through profit or loss, transaction costs are recognized directly in the income statement. Trade accounts receivable are recognized at their transaction price. Subsequent measurement of financial instruments is based on their classification in the categories stipulated by IFRS 9 (Financial Instruments).

Financial Assets

Financial assets comprise loans, acquired equity and debt instruments, cash and cash equivalents, other financial assets, and derivatives with positive fair values. The classification and measurement of financial assets is based on the business model pursued by the Covestro Group with regard to the management of its financial assets for the purpose of collecting cash flows, and on the characteristics of the contractual cash flows from the relevant financial assets (cash flow condition). Subsequent measurement takes place according to the measurement rules for the respective category, as described below.

Financial assets carried at amortized cost comprise nonderivative financial assets that are held as part of a business model that aims to collect contractual cash flows and that additionally fulfill the cash flow condition, i.e., the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. This category comprises trade accounts receivable, the loans included in other financial assets, the additional financial receivables reflected in other receivables, and cash and cash equivalents. Interest income from financial assets assigned to this category is determined using the effective interest method.

Financial assets carried at fair value through other comprehensive income encompass debt instruments held as part of a business model that aims to obtain cash flows from the instrument both by collecting contractual

payments as well as through the sale thereof, and that additionally fulfill the cash flow condition. Acquired bonds may be classified in this category to the extent that they are intended to be sold before they mature. Interest income, foreign currency gains and losses, and impairment losses or impairment loss reversals are recognized in the income statement for financial assets in this category. The remaining changes in fair value are recognized in other comprehensive income. Upon derecognition, the cumulative net gains or losses included in other comprehensive income are reclassified to the income statement.

The Covestro Group exercises the option of recognizing changes in the fair value of equity instruments that are not held for trading in other comprehensive income. In contrast to the treatment of debt instruments, the gains and losses recognized in other comprehensive income are not reclassified to the income statement upon derecognition, and no impairment losses are recognized in profit or loss.

Financial assets carried at fair value through profit or loss are all financial assets not assigned to any of the above categories and particularly include derivatives with positive fair values. The Covestro Group does not opt to measure financial assets at fair value, e.g., for the purpose of avoiding or minimizing accounting mismatches.

Financial assets are derecognized when contractual rights to receive cash flows from the financial assets expire or the financial assets are transferred together with all significant risks and rewards.

Cash and Cash Equivalents

Cash and cash equivalents comprise cash, checks received, and balances with banks. Cash equivalents are highly liquid short-term financial investments that are subject to an insignificant risk of changes in value, are easily convertible into a known amount of cash, and have a maturity of three months or less from the date of acquisition or investment.

Derivatives

Derivatives – such as forward exchange contracts – are used to mitigate the risk of fluctuations in exchange rates. Derivatives are recognized at the trade date.

Contracts concluded in order to receive or deliver nonfinancial goods for the company's own purposes are not accounted for as derivatives but treated as pending transactions. Where embedded derivatives are identified that are required to be separated from the pending transactions, they are accounted for separately. To cover possible peak demand, a nonmaterial volume of transactions may be entered into for which the possibility of immediate resale cannot be excluded. Such transactions are allocated to separate portfolios upon acquisition and accounted for as or like derivatives according to IFRS 9 (Financial Instruments).

Reportable derivatives are carried at fair value. This relates to what are known as standalone derivatives as well as derivatives embedded in certain types of contracts and therefore required to be accounted for separately from their host contracts. Positive fair values at the end of the reporting period are reflected in financial assets, negative fair values in financial liabilities. Changes in the fair values of these derivatives are recognized directly in profit or loss in the other operating result. Changes in the fair values of forward exchange contracts and currency options serving as hedging instruments for items in the statement of financial position are divided into an interest and a currency component. The interest component is recognized in interest expense or income and the currency component is recognized as exchange gains or losses in the other financial result. Changes in the fair value of forward exchange contracts used to hedge forecasted transactions in foreign currencies are recognized in other operating result.

Covestro does not apply hedge accounting.

Financial Liabilities

Financial liabilities generally comprise primary financial liabilities and negative fair values of derivatives.

In subsequent periods, such nonderivative liabilities are measured at amortized cost using the effective interest method. The Covestro Group does not opt to measure financial liabilities at fair value, e.g., to avoid or minimize accounting mismatches.

Financial liabilities are derecognized when the contractual obligation is discharged, cancelled, or has expired.

Provisions for Pensions and Other Post-Employment Benefits

Within the Covestro Group, post-employment benefits are provided under defined contribution and defined benefit plans. In the case of defined contribution plans, the company pays contributions to publicly or privately administered pension plans on a mandatory, contractual or voluntary basis. Once the contributions have been paid, the company has no further payment obligations. The regular contributions constitute expenses for the year in which they are due. As such, they are included in the functional cost items, and thus in income after income taxes plus financial result and income tax expense (EBIT). All other post-employment benefit systems are defined benefit plans, which may be either unfunded, i.e., financed by provisions, or funded, i.e., financed through pension funds.

The present value of the defined benefit obligations and the resulting expense are calculated in accordance with IAS 19 (Employee Benefits) by the projected unit credit method. The future benefit obligations are valued by actuarial methods and spread over the entire employment period on the basis of specific assumptions regarding beneficiary structure and the economic environment. These relate mainly to the discount rate, future salary and pension increases, variations in health care costs, and mortality rates.

The discount rates used are calculated from the yields of high-quality corporate bond portfolios in specific currencies with cash flows approximately equivalent to the expected cash outflows from the pension plans. The uniform discount rate derived from this interest rate structure is thus based on the yields, at the closing date, of a portfolio of corporate bonds with at least an AA or AAA rating whose weighted residual maturities approximately correspond to the duration necessary to cover the entire benefit obligation.

The fair value of plan assets is deducted from the present value of the defined benefit obligation for pensions and other post-employment benefits to determine the net defined benefit liability. Plan assets in excess of the benefit obligation are reflected in other receivables, subject to the asset ceiling specified in IAS 19. Comprehensive actuarial valuations for all major plans are performed annually as of December 31.

The balance of all income and expenses relating to defined benefit plans, except the net interest on the net liability, is recognized in EBIT. The net interest is reflected in the financial result.

The effects of remeasurements of the net defined benefit liability are reflected in other comprehensive income. They consist of actuarial gains and losses, the return on plan assets and changes in the effects of the asset ceiling, less the respective amounts included in net interest for the last two components. Deferred taxes relating to the effects of remeasurements are also recognized in other comprehensive income.

Other Provisions

Other provisions are measured in accordance with IAS 37 (Provisions, Contingent Liabilities and Contingent Assets) or, where applicable, IAS 19 (Employee Benefits). Where the cash outflow to settle an obligation is expected to occur after one year, the provision is recognized at the present value of the expected cash outflow. Claims for reimbursements from third parties are separately reflected in other receivables if their realization is virtually certain.

If the projected obligation declines as a result of a change in the estimate, the provision is reversed by the corresponding amount and the resulting income generally recognized in the functional cost item(s) in which the original charge was recognized.

To enhance the information content of the estimates, certain provisions that could have a material effect on the net assets, financial position and results of operations are selected and tested for their sensitivity to changes in the underlying parameters using sensitivity analysis. To reflect uncertainty about the likelihood of the assumed events actually occurring, the impact of a five-percentage-point change in the probability of occurrence is examined in each case.

Provisions for environmental protection are recorded if future cash outflows are likely to be necessary to ensure compliance with environmental regulations or to carry out remediation work based on an obligation, such costs can be reliably estimated, and no future benefits are expected from such measures.

Estimating the future costs of environmental protection and remediation involves many uncertainties, particularly with regard to the status of laws, regulations and the information available about conditions in the various countries and at the individual sites. Significant factors in estimating the costs include previous experiences in similar cases, the conclusions in expert opinions obtained for existing environmental programs, current costs, and new developments affecting these costs. Also taken into consideration are management's interpretation of current environmental laws and regulations, the number and financial position of third parties that may become obligated to participate in any remediation costs on the basis of joint liability, and the remediation methods likely to be deployed. Changes in these assumptions could impact future reported results.

Taking into consideration experience gained to date regarding environmental matters of a similar nature, Covestro's management believes the existing provisions to be adequate based upon currently available information. Given the businesses in which the Covestro Group operates and the difficulties inherent in accurately estimating liabilities for environmental protection, it remains possible that material additional costs will be incurred beyond the amounts accrued. It may transpire during remediation work that additional expenditures are necessary over an extended period and that these exceed existing provisions and cannot be reasonably estimated.

Provisions for restructuring are based either on a legal or a constructive external obligation. They only cover expenses that arise directly from restructuring measures, are necessary for restructuring, and are not related to future business operations. Such expenses include severance payments to employees and compensation payments in respect of rented property that can no longer be used. Prior to recognition of this type of provision, the associated assets are tested for impairment.

Restructuring measures may include the sale or termination of business units, site closures, relocations of business activities, leveraging of portfolio synergies, or fundamental reorganizations of business units. The respective provisions are established when a detailed restructuring plan has been drawn up, resolved by the responsible decision-making level of management, and communicated to the affected employees and/or their representatives. Provisions for restructuring are generally established at the present value of future cash outflows.

As a company with international operations, the Covestro Group is exposed to numerous legal risks for which provisions for litigation must be established under certain conditions – including especially in the areas of product liability, competition and antitrust law, patent disputes, tax law, environmental law, and compliance issues such as corruption and export control.

Litigation and other judicial proceedings often raise complex issues and are subject to many uncertainties and complexities including, but not limited to, the facts and circumstances of each particular case, the jurisdiction in which each suit is brought and differences in applicable law. The outcomes of currently pending and future proceedings generally cannot be predicted. Judgment in court proceedings, regulatory decisions or the conclusion of a settlement may result in the Covestro Group incurring charges for which no accounting measures have been taken for lack of reasonable estimate or which exceed established provisions and insurance coverage.

The Covestro Group considers the need for accounting measures in respect of pending or future litigations, and the extent of any such measures, on the basis of the information available to the Law, Intellectual Property & Compliance corporate function and in close consultation with legal counsel acting for the Covestro Group.

Where it is more likely than not that such a litigation will result in an outflow of resources that is already reasonably estimable, a provision for litigation is normally recorded in the amount of the present value of the expected cash outflows. Such provisions cover the estimated unavoidable payments to the plaintiffs, court and procedural costs, attorney costs, and the cost of potential settlements.

It is often impossible to reliably determine the existence of a present obligation or reasonably estimate the probability that a potential outflow of resources will result from a pending or future litigation. Due to the special nature of these litigations, provisions generally are not established until initial settlements allow an estimate of potential amounts or judgments have been issued, and not before at least a range of possible legal outcomes of such litigations can be determined. Provisions for legal defense costs are established if it is probable that material costs will have to be incurred for external legal counsel to defend the company's legal position.

Internal and external legal counsels evaluate the current status of the material legal risks of the Covestro Group at the end of each reporting period. The need to establish or adjust a provision and the amount of the provision or adjustment are determined on this basis. Adjusting events are reflected up to the date of preparation of the consolidated financial statements.

 [See note 26 "Legal Risks."](#)

Personnel-related provisions are mainly those recorded for variable one-time payments, individual performance awards, long-service awards, severance payments in connection with early retirement arrangements, surpluses on long-term accounts and other personnel costs.

Obligations under share-based compensation programs that provide for awards payable in cash are also included in personnel-related provisions. The compensation of the Board of Management of Covestro AG and of managerial employees includes share-based compensation components that are earned with lock-up periods and are reflected in profit or loss as personnel expenses in line with the consideration paid in the performance period. They are measured using a subscription price model at the time of granting and at each reporting date in accordance with IFRS 2 (Share-based Payment).

Miscellaneous provisions include those for other liabilities, for product liability, for warranty, and insurance payments. Rebates to be granted to customers are reported in refund liabilities, however.

Other Receivables and Liabilities

Other receivables are measured at fair value plus the transaction costs directly attributable to the acquisition of this asset. Grants and subsidies from third parties that serve to promote investment are reflected in the statement of financial position under other liabilities, and amortized to income over the useful lives of the respective investments.

Leases

A lease exists when the lessor grants the lessee the contractual right to control an identified asset for a specified period of time and in return the lessor receives consideration from the lessee.

When Covestro is the lessee in a lease, as a rule a right-of-use asset and a corresponding liability (lease liability) are recognized in the statement of financial position on the date the underlying asset is made available for use to Covestro.

The right-of-use asset represents a lessee's right to use the asset being leased in return for payment. Upon initial recognition, the right-of-use asset is generally capitalized at the amount of the corresponding lease liability plus any initial direct costs, any dismantling obligations and lease payments made prior to the commencement date less any lease incentives received. For subsequent measurement, the right-of-use asset is depreciated over the lease term. Contract modifications, as long as these are not measured as separate leases, and reassessment of the lease liability are also reflected in the right-of-use asset. The right-of-use asset is included in the property, plant and equipment line item in the statement of financial position. Impairment testing and reporting of any impairment losses or impairment loss reversals are carried out for the right-of-use assets in the statement of financial position in accordance with the regulations applicable to property, plant and equipment.

The lease liability represents the company's obligation to make contractual lease payments and is measured as the present value of precisely these outstanding lease payments. While IFRS 16 (Leases) requires use of the interest rate implicit in the lease in order to calculate the present value, it is frequently not possible to ascertain this interest rate. Accordingly, the incremental borrowing rate is generally applied in discounting the lease payments. This rate depends on the term, currency, and start date of the lease. If the outstanding lease payments include fixed payments or variable lease payments that depend on an index or an interest rate, these are taken into consideration in the lease liabilities. Variable lease payments that depend on an index or an interest rate are measured at the underlying index or interest rate as soon as this is to be applied. If, as an exception, there are residual value guarantees, purchase options or penalty fees, these are to be recognized accordingly in the lease liability to the extent that they are anticipated. At Covestro, lease agreements usually include fixed contract terms. Additionally, options to extend and terminate the lease exist particularly for the rental of production and logistics infrastructure and of real estate. In order to assess whether options to extend or terminate the lease are reflected in the lease term, all relevant facts are examined to determine the existence of economic incentives to exercise or not to exercise these options. The lease term is only adjusted to reflect changes in the expectations regarding whether or not such options will be exercised if there is reasonable certainty. The effective interest method is used for the subsequent measurement of lease liabilities. Using this method, periodic lease payments with an effect on cash flows are divided into an interest portion which affects profit or loss and a repayment portion not affecting profit or loss. Lease liabilities are reported in financial liabilities classified as current or noncurrent according to their maturity.

Overall, effects on income from leases to be recognized in accordance with IFRS 16 comprise depreciation of the right-of-use asset and any impairment losses on the right-of-use asset (operating result), discounting and subsequent measurement of the lease liability (financial result) and in cases in which a lease agreement is modified. Such lease modifications can result, for instance, from options to terminate or extend a lease which were previously not explicitly stipulated in the contract. Contractual lease payments for leases accounted for in accordance with IFRS 16 are shown solely under cash flows from financing activities.

IFRS 16 provides exemptions for applying the recognition and measurement rules for leases with a term of less than 12 months, those with a low-value underlying asset, or if the underlying asset is an intangible asset. Covestro considers an asset to be of low value if the new value is less than €5,000. Leases are not recognized as a depreciable right-of-use asset on the balance sheet or as a lease liability at Covestro for the exceptions referenced above. Corresponding contractual payments are instead shown in the cash flows from operating

activities and the same amount is recognized as an expense in the operating result. Moreover, the rules in IFRS 16 are not applied to leases on intangible assets.

For leases in which Covestro is the lessor, a differentiation is made between finance lease and operating lease in accordance with IFRS 16. Leases that transfer substantially all the risks and rewards incidental to ownership of the leased asset to the lessee are treated as finance leases. At the commencement date, Covestro recognizes a lease receivable in the statement of financial position in the amount of the net investment in the lease and derecognizes the underlying asset from the noncurrent assets. In an operating lease, the underlying asset continues to be shown under the Covestro's property, plant and equipment and depreciated over the useful life. Lease payments received are recorded as sales.

Impairment Testing

If there are indications that an individual intangible assets that does not constitute goodwill (other intangible asset) or property, plant and equipment (including recognized right-of-use assets from leases) may be impaired, the recoverable amount is compared to the carrying amount to determine whether it is higher or lower. The recoverable amount is generally the higher of the value in use or the fair value less costs of disposal. If the recoverable amount does not equal or exceed the respective carrying amount, an impairment loss is recognized in profit or loss in the amount of the difference between the carrying amount and the recoverable amount. If the reasons for a previously recognized impairment loss no longer apply, the impairment loss is reversed in profit or loss provided that the reversal does not cause the carrying amount to exceed the original (amortized) cost of acquisition or production.

Impairment losses and any impairment loss reversals are like depreciation and amortization recognized in the functional cost in line with the use of the relevant assets.

In addition to impairment testing of individual items of property, plant and equipment and other intangible assets, cash-generating units are globally tested if there is indication of impairment. Recognized goodwill is tested for impairment if there is indication of impairment, but at least once a year. Testing is generally done in the fourth quarter at the level of (groups of) cash-generating units.

A cash-generating unit (CGU) is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. As a rule, Covestro considers strategic business areas to be cash-generating units. They represent the reporting level below the seven business units that form the two reportable segments, Performance Materials and Solutions & Specialties. In cases where recognized goodwill in groups of cash-generating units is tested for impairment annually, the level tested is the relevant business unit as an exception.

If recognizing an impairment loss is required at the level of a CGU or group of CGUs, goodwill is written down first. In cases where the necessary impairment loss exceeds the goodwill written down, the remaining charge is distributed across other noncurrent, nonfinancial assets in proportion to their carrying amount unless individual assets must be accounted for differently. The impairment loss on goodwill is reported in other operating expenses. Impairment losses on goodwill may not be reversed.

Generally, the recoverable amount of a CGU or group of CGUs is the fair value less costs of disposal. This calculation is based on present value of the future cash flows since no market price can be determined for the individual units. The forecasts of future cash flows generally have a planning horizon of three to five years and are based on the Covestro Group's current planning. In certain cases, longer planning horizons are also considered if advisable due to specific assumptions underlying the planning. Assumptions made for purposes of forecasting cash flow mainly concern future selling prices and volumes, costs, market growth rates, economic cycles, and exchange rates. Changes in these assumptions are based on the Group's own estimates and external sources of information. Where the recoverable amount is the fair value less costs of disposal, this is measured from the viewpoint of an independent market participant. Cash flows beyond the detailed planning period are determined on the basis of the respective individual growth rates derived from market information and the associated long-term business expectations. The measurement of fair value less costs of disposal is based on unobservable inputs ("Level 3" of the fair value hierarchy).

The net cash inflows are discounted at the weighted average cost of capital (WACC), which is calculated as the weighted average cost of equity and cost of debt. To take into account the risk and return profile of the Covestro Group, an after-tax cost of capital is calculated, and a specific capital structure is defined by benchmarking against comparable companies in the same industry sector ("peer group"). The cost of equity corresponds to the return expected by shareholders, while the cost of debt is based on the terms at which the peer group can obtain long-term financing. In principle, both components are derived from capital market information.

Covestro's organizational and reporting structures were reorganized as part of the global LEAP transformation program as of July 1, 2021. This involved dividing up Covestro's business into standard products (Performance Materials segment) and specialties (Solutions & Specialties segment). The implementation of the reorganization measures also resulted in changes in the monitoring and management of recognized goodwill. In some cases, it was necessary to distribute this among the newly created organizational units where a new organizational unit fully or partly absorbed the business of a CGU to which the goodwill was allocated. In these cases, the recognized goodwill was reallocated by applying a relative carrying amount. The allocation of other net assets to the new organizational units was carried out in accordance with the principles described in note 4 "Segment and Regional Reporting."

The changes in the monitoring and management structure for recognized goodwill and the capital cost factors and growth rates used in annual impairment testing are presented in the following table for each CGU or group of CGUs. The growth assumptions reflect in particular economic cycles over several years as well as expectations for capacity and the market for each unit to be tested.

Impairment testing structure and material measurement parameters in fiscal 2021

Goodwill carrying unit	Reporting level	Goodwill in €m	Cost of capital in %	Growth rate in % (after the detailed planning period)
Standard Diphenylmethan-Diisocyanat (SMDI)	Strategic Business Area	49	6.6	1.5
Standard Polyether-Polyole (SPET)	Strategic Business Area	15	6.6	1.0
Standard Polycarbonate (SPCS)	Strategic Business Area	43	6.6	1.0
Engineering Plastics (EP)	Strategic Business Area	78	6.6	1.5
Tailored Urethanes (TUR)	Business Entity	17	6.6	1.1
Coatings & Adhesives (CA)	Business Entity	534	6.8	1.5
Thermoplastic Polyurethanes (TPU)	Strategic Business Area	16	6.6	1.5
Other	Strategic Business Area	5	6.6	1.0–2.0

Impairment testing structure and material measurement parameters in fiscal 2020

Goodwill carrying unit	Reporting level	Goodwill in €m	Cost of capital in %	Growth rate in % (after the detailed planning period)
Diphenylmethan-Diisocyanat (MDI)	Strategic Business Area	55	6.5	2.0
Polyether-Polyole (PET)	Strategic Business Area	21	6.5	1.0
Polycarbonates (PCS)	Strategic Business Area	119	6.5	2.0
Aliphatics (ALI)	Strategic Business Area	25	6.5	2.0
Performance Resins & Dispersions (PRD)	Strategic Business Area	10	6.5	2.0
Thermoplastic Polyurethanes (TPU)	Strategic Business Area	16	6.5	2.0
Other	Strategic Business Area	9	6.5	2.0

The acquisition of the Resins & Functional Materials (RFM) business in the Coatings & Adhesives business unit from from Koninklijke DSM N.V., Heerlen (Netherlands), resulted in a significant addition to acquired goodwill in the Coatings & Adhesives business unit compared to fiscal 2020.

As in the previous year, no impairment losses were recognized on reported goodwill in the reporting period on the basis of the global annual impairment testing of the cash-generating units or groups of cash-generating units. In fiscal 2021, impairment losses on property, plant and equipment and other intangible assets amounted to €5 million (previous year: €20 million) and impairment loss reversals on property, plant and equipment and intangible assets amounted to €3 million (previous year: €0 million).

☐ See note 13 "Goodwill and Other Intangible Assets" and note 14 "Property, Plant and Equipment."

Although the estimates of the useful lives of certain assets, assumptions concerning the macroeconomic environment and developments in the industries in which the Covestro Group operates, and estimates of the discounted future cash flows are believed to be appropriate, changes in assumptions or circumstances could require changes in the analysis. This could lead to additional impairment losses in the future or – except in the case of goodwill – to reversals of previously recognized impairment losses if developments are contrary to expectations.

The sensitivity analysis for cash-generating units or groups of cash-generating units to which goodwill is allocated was based on a 10% reduction in the future free operating cash flow, a 10% increase in the WACC, or a one-percentage-point reduction in the long-term growth rate. Based on these scenarios, there would be no need to recognize an impairment loss for any of the cash-generating units or groups of cash-generating units except for cash generating unit SPET. The same applies at the measurement date to other deviations from the assumptions used in the impairment testing that were deemed possible.

In the case of SPET, the recoverable amount would correspond to its carrying amount at the measurement date if the discounted cash flows were €110 million lower, the WACC was 1.0 percentage points higher, or the long-term growth rate were 1.1 percentage points lower. As of December 31, 2021, the carrying amount of the SPET cash-generating unit amounted to €956 million. A total of €15 million of this amount was attributable to goodwill recognized, €417 million to noncurrent assets, and €524 million to net working capital. In calculating the recoverable amount for SPET, stabilization of the imbalance of global supply and demand dominating fiscal 2021

was factored into the forecast of future cash flows. Expected efficiency gains resulting from planned measures to increase profitability and efficiency as part of the Group-wide LEAP transformation program were generally not considered in impairment testing. The subsequent realization and precise scope of these efficiency gains as well as the extent and pace of the assumed stabilization of the market situation will materially influence the impairment of the SPET cash-generating unit in the next fiscal year.

Fair Value

According to IFRS 13 (Fair Value Measurement), fair value is the price that would be received to sell an asset or paid to transfer a liability at the measurement date in an orderly transaction in a primary market or, if such is not available, in the most favorable market to which the Covestro Group has access at that time. In essence, the fair value of a liability reflects the risk of nonfulfillment.

If available, the Covestro Group calculates the fair value of a financial instrument based on quoted prices in an active market for this instrument. A market is regarded as active when transactions for the respective asset or liability take place with sufficient frequency and volume to provide regular pricing information at the reporting date.

If no quoted prices on an active market exist, measurement methods are used which maximize the use of relevant observable inputs and minimize the use of non-observable inputs. All factors taken into account by market participants in pricing such a transaction are incorporated into the relevant method of measurement.

Depending on the asset or liability category, specific information is provided about the principles for using or determining fair value. In the Covestro Group, this generally applies to items in the financial statements as well as disclosures in the notes.

Impairment Losses

The Covestro Group calculates a risk provision for expected credit losses for the following items:

- Financial assets measured at amortized cost;
- Debt instruments measured at fair value through other comprehensive income;
- Financial guarantees and loan commitments;
- Contract assets.

For financial instruments without a significant increase in credit risk since initial recognition, the amount of the risk provision for expected credit losses equals the credit losses expected to occur within the next 12 months. For financial instruments with a significant increase in credit risk, a risk provision is calculated in the amount of the credit losses expected over their residual maturity.

Relevant data from within and outside the company that can be obtained with reasonable effort is considered when determining whether the credit risk has increased substantially since initial recognition. For instance, the financial data of counterparties or customers, ratings, the payment histories of counterparties or customers, and forward-looking information are all assessed. It is assumed that a significant increase in credit risk has occurred when the financial asset is more than 30 days past due.

A default event has occurred when the Covestro Group comes to the conclusion that the counterparty is highly unlikely to be able to meet its payment obligations in full.

In the case of trade accounts receivable and contract assets, the amount of the risk provision is equal to the credit losses expected over their remaining term.

At each reporting date, the Covestro Group determines whether financial assets measured at amortized cost or at fair value through other comprehensive income are credit impaired. Indicators of possible credit impairment of a financial asset include observable data regarding the following events:

- Significant financial difficulties of the issuer or borrower;
- A breach of contract, such as default or delinquency;
- Concessions that Covestro makes to the borrower for financial or legal reasons relating to the financial difficulties of the borrower that it would not otherwise make;
- It is becoming probable that the borrower will enter bankruptcy or other financial reorganization;
- The loss of an active market for this financial asset.

The gross carrying amount of a financial asset is derecognized when the Covestro Group comes to the conclusion that the counterparty is no longer able to meet its payment obligations. Following derecognition, the Covestro Group assumes that it will no longer be able to recover any significant amounts.

Noncurrent Assets and Disposal Groups Held for Sale

Noncurrent assets and disposal groups classified as held for sale are carried at the lower of the carrying amount or fair value less the costs of disposal. The costs of disposal are the additional costs incurred directly attributable to the disposal of an asset (a disposal group) with the exception of financing costs and income tax expense. The criteria for classifying an asset or a disposal group as held for sale are only fulfilled when the sale is highly probable and the asset or disposal group may be sold immediately in its current condition. The disposal must be possible, as expected, within one year from the date of classification as a completed sale.

Property, plant and equipment and intangible assets classified as held for sale are not depreciated/amortized. Instead, they are recognized at fair value less the costs of disposal if this is lower than the carrying amount.

4. Segment and Regional Reporting

The Board of Management of Covestro AG, as the chief operating decision maker of the Covestro Group, allocates resources to the reportable segments and assesses their performance. The reportable segments are identified, and the disclosures selected, in line with the internal financial reporting system (management approach).

The Group restructured its organization and reporting as of July 1, 2021. The Group's three reportable segments to date (Polyurethanes (PUR), Polycarbonates (PCS) and Coatings, Adhesives, Specialties (CAS)) have been replaced with two new reportable segments: Performance Materials (PM) and Solutions & Specialties (S & S). The reference information was also restated based on the new structure.

The segments pursue the following activities:

Performance Materials

The Performance Materials segment focuses on developing, producing, and reliably supplying high-performance materials such as standard polyurethanes and polycarbonates, as well as base chemicals. These include i.a. diphenylmethane diisocyanate (MDI), toluene diisocyanate (TDI), long-chain polyols, and polycarbonate resins. Those materials are used in sectors such as the furniture and wood processing industry, the construction industry as well as the automotive and transportation industry. These materials are used in roof structures, insulation for buildings and refrigerators, mattresses, and car seats, among other applications.

Solutions & Specialties

The Solutions & Specialties segment consolidates Covestro's solutions and specialties businesses, and combines chemical products with application technology services. A fast pace of innovation is a key success factor since customer requirements change quickly. Covestro's Solutions & Specialties business comprises a variety of polymer products including polycarbonates, precursors for coatings and adhesives, MDI specialties and polyols, thermoplastic polyurethanes, specialty films, and elastomers. They are used in sectors such as the automotive and transportation industry; the electrical, electronics and household appliances industry; the construction industry; and the healthcare industry. These materials include composite resins for wind turbine rotor blades; precursors for coatings and adhesives; laptop cases; floodlights; and high-quality specialty films.

Business activities that cannot be allocated to any of the aforementioned segments, costs associated with central corporate functions, and higher or lower expenses resulting from more or less favorable Covestro share performance as part of long-term variable compensation are reported in **"Others/ Consolidation."** External sales are generated primarily from the sale of energy, site management services, and rentals and leasing.

As a rule, the segment data is calculated in accordance with the International Financial Reporting Standards (IFRSs) listed in note 3 "Accounting Policies and Valuation Principles" with the following exceptions:

- Intersegment sales are based on arm's length transactions between the units that make up Covestro's segments.
- Property, plant and equipment and intangible assets, except goodwill, including noncurrent assets used jointly by both segments and the associated depreciation, amortization, and impairment losses are allocated according to a principle based on major use. An explanation of the approach and effects of global impairment testing of goodwill is provided in note 3 "Accounting Policies and Valuation Principles."
- Core volume growth* refers to the core products in the Performance Materials and Solutions & Specialties segments. It is calculated as the percentage change in externally sold volumes compared with the prior year. Covestro also takes advantage of business opportunities outside its core business, for example the sale of precursors and by-products such as hydrochloric acid, sodium hydroxide solution, and styrene. Such transactions are not included in core volume growth.
- EBIT and EBITDA are not defined in the IFRSs. EBIT is equal to income after income taxes plus financial result and income taxes. EBITDA is EBIT plus amortization and impairment losses on intangible assets, and depreciation and impairment losses on property, plant and equipment, less impairment loss reversals.
- Free operating cash flow, which is not defined in the IFRSs either, equals cash flows from operating activities less cash outflows for additions to property, plant, equipment and intangible assets. The income taxes paid that make up part of cash flows from operating activities are not directly allocated to any of the company's units. For purposes of calculating cash flows from operating activities, the income taxes paid of a reportable segment are determined according to the management approach by multiplying the effective tax rate (ETR) expected for the fiscal year by that segment's EBIT.
- Trade working capital comprises inventories, trade accounts receivable, and contract assets, less trade accounts payable, contract liabilities, and refund liabilities.

EBIT, EBITDA, and free operating cash flow per segment include intersegment sales and, in each case, the effects of the aforementioned allocation of property, plant and equipment and intangible assets, including noncurrent assets used jointly by both segments, and the associated depreciation, amortization, impairment losses, and impairment loss reversals.

* Not an IFRS indicator; reported voluntarily.

The following tables show the segment reporting data:

Key data by segment¹

	Performance Materials	Solutions & Specialties	Others/ Consolidation	Covestro Group
	€ million	€ million	€ million	€ million
2021				
Sales (external)	8,142	7,554	207	15,903
Intersegment sales ²	2,195	27	(2,222)	–
Sales (total) ²	10,337	7,581	(2,015)	15,903
Core volume growth ³	+0.3%	+26.0%		+10.0%
EBITDA ^{2, 4}	2,572	751	(238)	3,085
EBIT ^{2, 4}	2,003	503	(244)	2,262
Free operating cash flow ²	1,387	145	(103)	1,429
Cash outflows for additions to property, plant and equipment and intangible assets	488	273	3	764
Depreciation, amortization and impairment losses	(569)	(248)	(6)	(823)
of which impairment losses	(3)	(2)	–	(5)
of which impairment loss reversals	3	–	–	3
Research and development expenses	(104)	(227)	(10)	(341)
2020				
Sales (external)	5,468	5,060	178	10,706
Intersegment sales ²	947	23	(970)	–
Sales (total) ²	6,415	5,083	(792)	10,706
Core volume growth ³				–5.6%
EBITDA ^{2, 4}	896	743	(167)	1,472
EBIT ^{2, 4}	323	545	(172)	696
Free operating cash flow ²	176	446	(92)	530
Cash outflows for additions to property, plant and equipment and intangible assets	498	203	3	704
Depreciation, amortization and impairment losses	(573)	(198)	(5)	(776)
of which impairment losses	(7)	(13)	–	(20)
of which impairment loss reversals	–	–	–	–
Research and development expenses	(82)	(173)	(7)	(262)

¹ The reference information was calculated based on the new organizational and reporting structure as of July 1, 2021.

² The values were recalculated retroactively as of October 1, 2021, based on a change in the underlying market prices for compensation for transactions between the Performance Materials and Solutions & Specialties segments and the reference information restated accordingly.

³ Reference values calculated on the basis of the definition of the core business effective March 31, 2021. Not an IFRS indicator; reported voluntarily. Reference information for the segments based on fiscal 2019 is not presented here due to the new organizational structure.

⁴ The earnings of the Performance Materials and Solutions & Specialties reportable segments include the effect on earnings of intersegment sales.

Trade working capital by segment¹

	Dec. 31, 2020	Dec. 31, 2021
	€ million	€ million
Performance Materials	970	1,392
Solutions & Specialties	978	1,560
Total of reportable segments	1,948	2,952
Others/ Consolidation	1	–
Trade working capital	1,949	2,952
of which inventories	1,663	2,914
of which trade accounts receivable	1,593	2,343
of which trade accounts payable	(1,241)	(2,214)
of which IFRS 15 items ²	(66)	(91)

¹ The reference information was calculated based on the new organizational and reporting structure as of July 1, 2021.

² The item includes contract assets, contract liabilities, and refund liabilities.

Information by Geographical Areas

The following table shows information by geographical area. The EMLA region consists of Europe, the Middle East, Africa and Latin America except Mexico, which together with the United States and Canada forms the NA region. The APAC region includes Asia and the Pacific region.

Regional reporting¹

	EMLA	NA	APAC	Total
	€ million	€ million	€ million	€ million
2021				
Sales (external) by market	6,876	3,553	5,474	15,903
Sales (external) by point of origin	6,914	3,617	5,372	15,903
2020				
Sales (external) by market	4,600	2,554	3,552	10,706
Sales (external) by point of origin	4,554	2,613	3,539	10,706

¹ No further presentation of interregional sales is provided, as these are neither reported separately to, nor do they influence the EBIT and EBITDA reported to the Board of Management of Covestro AG.

The following table provides a breakdown by countries of external sales by market and of property, plant and equipment as well as intangible assets:

Sales (external) by market and property, plant and equipment and intangible assets by country

	Sales (external) by market	Property, plant and equipment and intangible assets
	€ million	€ million
2021		
Germany	1,918	2,091
United States	2,962	1,573
China	3,544	1,534
Other	7,479	2,297
Total	15,903	7,495
2020		
Germany	1,342	1,925
United States	2,128	1,129
China	2,250	1,355
Other	4,986	1,130
Total	10,706	5,539

Information on Major Customers

Revenues from transactions with a single customer in no case exceeded 10% of Covestro Group sales in fiscal 2021 or the previous year.

Reconciliation

The following table shows the reconciliation of EBITDA of the segments to income before income taxes of the Group:

Reconciliation of segments' EBITDA to group income before income taxes¹

	2020	2021
	€ million	€ million
EBITDA of reportable segments	1,639	3,323
EBITDA of Others/ Consolidation	(167)	(238)
EBITDA	1,472	3,085
Depreciation, amortization, impairment losses and impairment loss reversals of reportable segments	(771)	(817)
Depreciation, amortization, impairment losses and impairment loss reversals of Others/ Consolidation	(5)	(6)
Depreciation, amortization, impairment losses and impairment loss reversals	(776)	(823)
EBIT of reportable segments	868	2,506
EBIT of Others/ Consolidation	(172)	(244)
EBIT	696	2,262
Financial result	(91)	(77)
Income before income taxes	605	2,185

¹ The reference information was calculated based on the new organizational and reporting structure as of July 1, 2021.

5. Changes in the Scope of Consolidation

5.1 Scope of Consolidation and Investments

As of December 31, 2021, the scope of consolidation comprised Covestro AG and 66 (previous year: 47) consolidated companies.

The increase in the number of consolidated companies in the reporting year 2021 is attributable to the acquisition of the Resins & Functional Materials (RFM) business from Koninklijke DSM N.V., Heerlen (Netherlands). A total of 27 RFM companies were fully consolidated effective April 1, 2021, for the first time. As a result of the acquisition of the RFM business, DSM NeoResins Holdings B.V., Waalwijk (Netherlands); DSM Resins Holding (Nederland) B.V., Zwolle (Netherlands); and DSM Coating Resins International Holding B.V., Zwolle (Netherlands), merged with Covestro (Netherlands) B.V., Nieuwegein (Netherlands), and Healthy Nest Inc., Wilmington, Delaware (United States), merged with Covestro LLC, Pittsburgh, Pennsylvania (United States), effective between August 3, 2021, and December 1, 2021. Furthermore, the former RFM company Again IP B.V., Horst aan de Maas (Netherlands), was dissolved effective October 1, 2021.

Asellion B.V., Amsterdam (Netherlands), merged with Covestro (Netherlands) B.V., Nieuwegein (Netherlands), effective July 1, 2021.

The sale of the legal entities Pearl Polyurethane Systems FZCO, Dubai (United Arab Emirates), and Pearl Polyurethane Systems L.L.C, Dubai (United Arab Emirates), was successfully completed effective July 26, 2021. This wrapped up the sale of the polyurethane systems house business in the Middle East.

Effective January 14, 2022, the purchase agreement for the remaining 30% of the shares of the joint venture Japan Fine Coatings Co., Ltd., Ibaraki (Japan), formerly held by our joint venture partner JSR Corporation, Tokyo (Japan), was signed and executed. Covestro is now sole owner of the company.

The scope of consolidation includes the joint operation LyondellBasell Covestro Manufacturing Maasvlakte V.O.F, Rotterdam (Netherlands), as of December 31, 2021, which is unchanged from the previous year. Pursuant to IFRS 11 (Joint Arrangements), Covestro's shares of this company's assets, liabilities, revenues and expenses are included in the consolidated financial statements in accordance with Covestro's rights and obligations. The main purpose of LyondellBasell Covestro Manufacturing Maasvlakte V.O.F is the joint production of propylene oxide (PO) for Covestro and its partner LyondellBasell.

Additionally, two (previous year: two) associated companies are accounted for in the consolidated financial statements using the equity method.

Ten (previous year: nine) subsidiaries and two (previous year: two) associated companies that in aggregate are immaterial to the Covestro Group's net assets, financial position, and results of operations are not consolidated but recognized at cost. The immaterial subsidiaries each accounted for no more than 0.1% of Group sales, equity, or total assets in the reporting year 2021.

The consolidated financial statements of Covestro are submitted to the operator of the Federal Gazette (Bundesanzeiger).

Fully consolidated companies

Company name	Place of business	Covestro's interest in %
EMLA		
Covestro (France) SNC	Fos-sur-Mer (France)	100
Covestro (Netherlands) B.V.	Nieuwegein (Netherlands)	100
Covestro (Slovakia) Services s.r.o.	Bratislava (Slovakia)	100
Covestro Amulix V.o.F.	Zwolle (Netherlands)	72
Covestro Bio-Based Coatings B.V.	Zwolle (Netherlands)	100
Covestro Brunsbüttel Energie GmbH	Brunsbüttel (Germany)	100
Covestro Coating Resins B.V.	Zwolle (Netherlands)	100
Covestro Coating Resins Spain S.L.	Barcelona (Spain)	100
Covestro Desotech B.V.	Hoek van Holland (Netherlands)	100
Covestro Deutschland AG	Leverkusen (Germany)	100
Covestro Elastomers SAS	Romans-sur-Isère (France)	100
Covestro First Real Estate GmbH	Leverkusen (Germany)	100
Covestro GmbH	Leverkusen (Germany)	100
Covestro Indústria e Comércio de Polímeros Ltda.	São Paulo (Brazil)	100
Covestro Intellectual Property GmbH & Co. KG	Leverkusen (Germany)	100
Covestro International SA	Fribourg (Switzerland)	100
Covestro Niaga B.V.	Zwolle (Netherlands)	100
Covestro NV	Antwerp (Belgium)	100
Covestro Polyurethanes B.V.	Nieuwegein (Netherlands)	100
Covestro Procurement Services GmbH & Co. KG	Leverkusen (Germany)	100
Covestro Resins (Germany) GmbH	Meppen (Germany)	100
Covestro Resins B.V.	Zwolle (Netherlands)	100
Covestro Resins China Holding B.V.	Zwolle (Netherlands)	100
Covestro S.r.l.	Filago (Italy)	100
Covestro Second Real Estate GmbH	Leverkusen (Germany)	100
Covestro Thermoplast Composite GmbH	Markt Bibart (Germany)	100
Covestro UK Limited	Cheadle Hulme (United Kingdom)	100
Covestro, S.L.	Barcelona (Spain)	100
DSM Coating Resins (China) Holding B.V.	Zwolle (Netherlands)	100
Epurex Films GmbH & Co. KG	Walsrode (Germany)	100
MS Global AG in Liquidation	Köniz (Switzerland)	100
Solar Coating Solutions B.V.	Geleen (Netherlands)	100
NA		
Covestro Coating Resins, Inc.	Wilmington, Massachusetts (United States)	100
Covestro Desotech Inc.	Elgin, Illinois (United States)	100
Covestro International Re, Inc.	Colchester, Vermont (United States)	100
Covestro International Trade Services Corp.	Wilmington, Delaware (United States)	100
Covestro LLC	Pittsburgh, Pennsylvania (United States)	100
Covestro PO LLC	Pittsburgh, Pennsylvania (United States)	100
Covestro, S.A. de C.V.	Mexico City (Mexico)	100
APAC		
Covestro (Hong Kong) Limited	Hong Kong Special Administration Region (China)	100
Covestro (India) Private Limited	Thane (India)	100
Covestro (Shanghai) Investment Company Limited	Shanghai (China)	100
Covestro (Taiwan) Ltd.	Kaohsiung City (Taiwan, Greater China)	95.5
Covestro (Thailand) Co., Ltd.	Bangkok (Thailand)	100

Fully consolidated companies

Company name	Place of business	Covestro's interest in %
Covestro (Viet Nam) Company Limited	Ho Chi Minh City (Vietnam)	100
Covestro Eternal Resins (Far East) Ltd.	Pingtung (Taiwan, Greater China)	60
Covestro Eternal Resins (Kunshan) Co., Ltd.	Kunshan (China)	50
Covestro Far East (Hong Kong) Limited	Hong Kong Special Administration Region (China)	100
Covestro Invest (Far East) Company Limited	Hong Kong Special Administration Region (China)	100
Covestro Japan Ltd.	Tokyo (Japan)	100
Covestro Korea Corporation	Seoul (South Korea)	100
Covestro Material Science and Technology (Shanghai) Company Limited	Shanghai (China)	100
Covestro Polymers (China) Company Limited	Shanghai (China)	100
Covestro Polymers (Qingdao) Company Limited	Qingdao (China)	100
Covestro Polymers (Shenzhen) Co., Ltd.	Shenzhen (China)	100
Covestro Pty Ltd	Mulgrave (Australia)	100
Covestro Resins (Foshan) Company Ltd.	Foshan (China)	100
Covestro Resins (ROA) Ltd.	Taipei City (Taiwan, Greater China)	100
Covestro Resins (Shanghai) Co., Ltd.	Shanghai (China)	100
Covestro Resins (Taiwan) Ltd.	Taipei City (Taiwan, Greater China)	100
DIC Covestro Polymer Ltd.	Tokyo (Japan)	80
Guangzhou Covestro Polymers Company Limited	Guangzhou (China)	100
Japan Fine Coatings Co., Ltd.	Ibaraki (Japan)	70
PT Covestro Polymers Indonesia	Jakarta (Indonesia)	99.9
Sumika Covestro Urethane Company, Ltd.	Hyogo (Japan)	60

According to IFRS 12 (Disclosure of Interests in Other Entities), Covestro's interest in the amount of 50% in Covestro Eternal Resins (Kunshan) Co., Ltd., Kunshan (China), is classified as a fully consolidated company due to the 57% share of voting rights.

The following joint operation was included in the consolidated financial statements in line with Covestro's shares of its assets, liabilities, revenues and expenses:

Joint operation

Company name	Place of business	Covestro's interest in %
LyondellBasell Covestro Manufacturing Maasvlakte V.O.F	Rotterdam (Netherlands)	50

The following associated companies are accounted for in the consolidated financial statements using the equity method:

Associates accounted for using the equity method

Company name	Place of business	Covestro's interest in %
Paltough Industries (1998) Ltd.	Kibbuz Ramat Yochanan (Israel)	25
PO JV, LP	Houston, Texas (United States)	39.4

The following subsidiaries were reflected in the consolidated financial statements at amortized cost due to their immateriality:

Immaterial subsidiaries

Company name	Place of business	Covestro's interest in %
"Covestro" LLC	Moscow (Russia)	100
Asellion (Shanghai) Information Technology Co., Ltd.	Shanghai (China)	100
Covestro Intellectual Property Verwaltungs GmbH	Leverkusen (Germany)	100
Covestro Invest GmbH	Leverkusen (Germany)	100
Covestro Middle East FZ-LLC	Dubai (United Arab Emirates)	100

Immaterial subsidiaries

Company name	Place of business	Covestro's interest in %
Covestro Polimer Anonim Şirketi	Istanbul (Turkey)	100
Covestro Polymers (Tianjin) Co., Ltd.	Tianjin (China)	100
Covestro Procurement Services Verwaltungs GmbH	Leverkusen (Germany)	100
Covestro sp. z o.o.	Warsaw (Poland)	100
Epurex Films Geschäftsführungs-GmbH	Walsrode (Germany)	100

The following associated companies are accounted for in the consolidated financial statements at cost due to their immateriality:

Immaterial associate

Company name	Place of business	Covestro's interest in %
Pure Salt Baytown, LLC	Baytown, Texas (United States)	0
Technology JV, LP	Houston, Texas (United States)	33.3

The 41.2% investment in Crime Science Technology SAS, Loos (France), is classified as a debt instrument in accordance with IAS 32 (Financial Instruments: Presentation) and is measured at fair value through profit or loss in accordance with IFRS 9 (Financial Instruments).

The following fully consolidated domestic subsidiaries availed themselves in fiscal year 2021 of the exemptions granted under Section 264, Paragraph 3 or Section 264b of the German Commercial Code (HGB) regarding the preparation, auditing, and publication of financial statements:

German exempt subsidiaries

Company name	Place of business	Covestro's interest in %
Covestro GmbH	Leverkusen (Germany)	100
Covestro Intellectual Property GmbH & Co. KG	Leverkusen (Germany)	100
Covestro Procurement Services GmbH & Co. KG	Leverkusen (Germany)	100
Covestro Resins (Germany) GmbH	Meppen (Germany)	100
Epurex Films GmbH & Co. KG	Walsrode (Germany)	100

5.2 Acquisitions and Divestitures

Acquisitions

On April 1, 2021, Covestro successfully completed the acquisition of the Resins & Functional Materials (RFM) business from Koninklijke DSM N.V., which was included in the consolidated financial statements for the first time as of that date. The responsible authorities approved the transaction after Covestro and Koninklijke DSM N.V. reached an agreement on the purchase at the end of September 2020. The acquisition of RFM makes the Solutions & Specialties segment a leading supplier of sustainable coating resins. Thanks to the acquisition, the segment's even more comprehensive and highly innovative product portfolio will offer customers clear added value. The transaction covers innovative projects such as Additive Manufacturing, Advanced Solar Coatings, and Niaga.

The acquisition was accounted for as a business combination in accordance with IFRS 3 (Business Combinations). For purposes of the purchase price allocation, the acquired company's identifiable assets, the assumed liabilities and contingent liabilities, and any noncontrolling interest in the acquiree were recognized at fair value. According to IFRS 3, the purchase price allocation can be adjusted within one year of the acquisition date based on new information and findings. This can affect especially items that are based on assumptions and estimates, which mainly include provisions, contingent liabilities, and deferred taxes. No assurance can be given that other items may not change.

The acquisition also includes the following shares and voting rights in four companies with noncontrolling interests that are nonetheless fully consolidated: the 50% interest (57% voting rights) in Covestro Eternal Resins

(Kunshan) Co., Ltd., Kunshan (China); the 60% interest (60% voting rights) in Covestro Eternal Resins (Far East) Ltd., Pingtung (Taiwan, Greater China); the 72% interest (72% voting rights) in Covestro Amulix V.o.F., Zwolle (Netherlands); and the 70% interest (100% voting rights) in Japan Fine Coatings Co., Ltd., Ibaraki (Japan).

Covestro and Koninklijke DSM N.V. agreed on a preliminary consideration transferred of €1,544 million, which was paid in cash. The purchase price allocation resulted in a goodwill of €489 million. This goodwill includes expected synergies arising from administrative processes and infrastructure, including cost savings in procurement, sales, and general administration, and from unlocking future business opportunities with new customers. Goodwill is not tax deductible in the countries involved in the acquisition, except the United States. The share of tax-deductible goodwill attributable to the United States amounts to €50 million.

The purchase price allocation was prepared by an external appraiser and continually updated during fiscal 2021 based on additional information, analyses, and calculations. As a result, the purchase price allocation was adjusted as of December 31, 2021. The following overview shows the fair value of the identifiable acquired assets and liabilities as of December 31, 2021, adjustments to these fair values since June 30, 2021, the consideration transferred, and the net cash outflow considering acquired cash and cash equivalents:

Acquired assets and assumed liabilities (fair values at the acquisition date) and adjustments

	June 30, 2021	Adjustment of the purchase price allocation	December 31, 2021
	€ million	€ million	€ million
Goodwill	481	8	489
Other intangible assets	624	1	625
Property, plant and equipment	462	(8)	454
Inventories	147	8	155
Trade accounts receivable	202	(10)	192
Other receivables	21	(1)	20
Cash and cash equivalents	75	–	75
Deferred tax assets	21	–	21
Provisions	(33)	–	(33)
Financial liabilities	(33)	–	(33)
Trade accounts payable	(194)	–	(194)
Other liabilities	(42)	–	(42)
Deferred tax liabilities	(148)	2	(146)
Net assets	1,583	–	1,583
Noncontrolling interest	(39)	–	(39)
Consideration transferred	1,544	–	1,544
Acquired cash and cash equivalents	(75)	–	(75)
Net cash outflow for acquisitions	1,469	–	1,469

The other intangible assets mainly include customer relationships in the amount of € 412 million as well as technologies relating to water-based hybrid technologies, powder coating resins, and radiation curing resins in the amount of € 176 million. The measurement of this item at fair value is based mainly on discounted payment surpluses.

The fair value of acquired receivables totaling €212 million relates mainly to trade accounts receivable. At the acquisition date, gross contractual receivables amounted to €214 million, with €2 million of this amount estimated to be unrecoverable.

Noncontrolling interests were measured according to the partial goodwill method in the course of initial consolidation. Based on the partial goodwill method, the value of the noncontrolling interests totals €39 million.

Acquisition-related costs associated with the business combination of €42 million were recognized in the income statement as an expense in the amount of €38 million. Costs of €4 million arising as part of the capital increase prior to the RFM acquisition were recognized in equity. Of this total amount, €38 million had already been recognized in the previous year.

The sales generated by the acquired RFM business since the acquisition date amounted to €862 million, with income after taxes amounting to €- 9 million. The income after taxes comprised expenses resulting from one-time effects and the purchase price allocation. If the aforementioned acquisition had been completed by January 1, 2021, Covestro would have reported sales of €16,266 million. Income after taxes would have amounted to €1,635 million, including expenses from one-time effects and the purchase price allocation. Intercompany profits between Covestro and RFM companies were eliminated in this case.

The purchase price allocation for RFM has not yet been completed, because the preparation and audit of the underlying financial information will still take some time. Allocations of the purchase price to the individual assets and liabilities could therefore still change.

Divestitures

On July 26, 2021, Covestro successfully completed the sale of the assets and liabilities (disposal group) of the system house business in the Middle East to the former co-shareholder Pearl Industries Overseas Ltd., Dubai (United Arab Emirates). The sale of this systems house business is part of Covestro's portfolio optimization process, during the course of which Covestro sold the only North American systems house in April 2017 and the European systems house business in November 2019. The systems house business was part of the Solutions & Specialties segment and offers customer-specific polyurethane systems to the construction sector in particular. The transaction was structured as a share deal. The selling price expected in the fourth quarter of 2020 was lower than the value of the net assets to be sold, which were written down accordingly. Impairment charges led to a loss totaling €16 million reported in manufacturing costs, selling expenses, and general administration expenses in fiscal 2020. In connection with this disposal, current assets amounting to €55 million and liabilities of €22 million were sold. Due to impairment charges on the assets in the previous year, the loss of €1 million on the disposal led to an insignificant negative effect on earnings and was recognized in the other operating expenses.

On July 31, 2021, the sale of assets (disposal group) in Taoyuan (Taiwan, Greater China), to Evermore Chemical Industry Co. Ltd., Nantou (Taiwan, Greater China), was completed successfully. These were part of the RFM acquisition and therefore attributable to the Solutions & Specialties segment. Production-related assets totaling €12 million were sold. Inventories, which are measured separately, were also transferred. Due to remeasurement as part of the purchase price allocation, the disposal led to an insignificant negative effect on earnings. The loss of €1 million on the disposal was recognized in the other operating expenses.

Notes to the Income Statement

6. Sales

Sales are categorized according to “geographical regions and key countries” and mainly comprise sales from contracts with customers and an insignificant amount of rental and leasing sales. The table also contains a breakdown of sales by reportable segments.

Disaggregation of sales

	Performance Materials	Solutions & Specialties	Others/ Consolidation	Covestro Group
	€ million	€ million	€ million	€ million
2021				
EMLA	3,878	2,835	163	6,876
of which Germany	978	843	97	1,918
NA	1,926	1,594	33	3,553
of which United States	1,620	1,313	29	2,962
APAC	2,338	3,125	11	5,474
of which China	1,572	1,969	3	3,544
2020				
EMLA	2,572	1,894	134	4,600
of which Germany	657	624	61	1,342
NA	1,347	1,175	32	2,554
of which United States	1,156	942	30	2,128
APAC	1,549	1,991	12	3,552
of which China	993	1,252	5	2,250

The following table presents the opening and closing balances of trade accounts receivable, contract assets, and contract liabilities:

Contract balances

	Jan. 1, 2020	Dec. 31, 2020	Dec. 31, 2021
	€ million	€ million	€ million
Trade accounts receivable	1,561	1,593	2,343
Contract assets	43	43	62
Contract liabilities	18	22	37

Contract assets are recognized in case the right to consideration in exchange for goods or services that have been transferred to a customer is conditional. This occurs primarily in the event of goods delivered to consignment warehouses of external customers. Where sales are made through consignment warehouses, customers primarily obtain control over the delivered goods upon delivery to the consignment warehouse. Contract assets are recognized as trade accounts receivable upon invoicing.

Contract liabilities are recognized for advance payments received from customers prior to transferring goods or services. These contract liabilities are recognized as sales when the goods or services have been transferred.

Sales from performance obligations satisfied (or partially satisfied) in previous periods and recognized in fiscal 2021 amounted to €2 million (previous year: €2 million).

The changes in contract assets and contract liabilities in the reporting period resulted from the following circumstances:

Reconciliation of contract assets

	2020	2021
	€ million	€ million
Transfers from contract assets recognized at the beginning of the period to trade accounts receivable	(40)	(43)
Increases due to performance obligations fulfilled but not billed at the reporting date	43	62
Catch-up adjustments to revenue that affect the corresponding contract asset	(3)	–
Business combination	–	–
Total	–	19

Reconciliation of contract liabilities

	2020	2021
	€ million	€ million
Revenue recognized that was included in the contract liability balance at the beginning of the period	(18)	(22)
Increases due to cash received, excluding amounts recognized as revenue during the period	22	36
Catch-up adjustments to revenue that affect the corresponding contract liability	–	–
Business combination	–	1
Total	4	15

The following table provides the transaction price allocated to the remaining performance obligations as of balance sheet date. The total amount is divided according to the reporting period when it is expected to be recognized.

Transaction price allocated to the remaining performance obligations

	Dec. 31, 2020		Dec. 31, 2021
	€ million		€ million
2021	648	2022	1,028
2022	633	2023	885
2023	465	2024	696
2024	323	2025	505
2025	102	2026	574
2026 or later	155	2027 or later	73
Total	2,326	Total	3,761

The disclosures on the transaction price allocated to the remaining performance obligations is based on long-term supply contracts according to IFRS 15 (Revenue from Contract with Customers) which stipulate minimum volumes to be purchased as agreed between both parties.

Performance obligations from contracts with an original expected term of 12 months or less are excluded. Similarly, the disclosure of the transaction price excludes performance obligations satisfied over time for which Covestro has the right to consideration in an amount that corresponds directly with the value to the customer of the performance completed to date and for which Covestro may recognize revenue in the amount to which Covestro has the right to invoice.

The transaction price only includes variable consideration arising from contracts with customers, like sales- or volume-based rebates or price formulas, for which the prices are derived from external, market-based indices, to the extent that they are not constrained as defined in IFRS 15.

7. Other Operating Income

Other operating income was comprised as shown in the following table:

Other operating income

	2020	2021
	€ million	€ million
Gains on retirements of noncurrent assets	3	8
Reversals of impairment losses on receivables	4	11
Gains from derivatives	2	1
Miscellaneous operating income	54	79
Total	63	99

Gains from derivatives in fiscal years 2020 and 2021 resulted from embedded derivatives.

Miscellaneous other operating income for the reporting period mainly included insurance reimbursements of €20 million (previous year: €21 million) and insurance premiums received amounting to €30 million (previous year: €13 million).

8. Other Operating Expenses

Other operating expenses were comprised as shown in the following table:

Other operating expenses

	2020	2021
	€ million	€ million
Losses on retirements of noncurrent assets	(12)	(6)
Impairment losses on receivables	(7)	(5)
Losses from derivatives	(3)	(1)
Miscellaneous operating expenses	(77)	(69)
Total	(99)	(81)

Losses from derivatives in fiscal years 2020 and 2021 resulted from embedded derivatives.

Miscellaneous operating expenses in fiscal 2021 mainly related to insurance expenses of €43 million (previous year: €20 million).

9. Personnel Expenses and Employee Numbers

Personnel expenses consisted of the following:

Personnel expenses

	2020	2021
	€ million	€ million
Salaries	(1,341)	(1,895)
Social expenses and expenses for pensions and other benefits	(382)	(403)
of which for defined contribution pension plans	(95)	(111)
of which for defined benefit and other pension plans	(122)	(115)
Total	(1,723)	(2,298)

In 2021, personnel expenses rose chiefly on account of higher expenses for short-term variable compensation as part of the Group's Covestro Profit Sharing Plan (Covestro PSP) and the increased number of employees resulting from the acquisition of the Resins & Functional Materials (RFM) business from Koninklijke DSM N.V., Heerlen (Netherlands), on April 1, 2021.

Average number of employees

	2020	2021
Production	10,885	11,349
Marketing and distribution	3,181	3,257
Research and development	1,213	1,421
General administration	1,457	1,530
Total	16,736	17,557
Employees in vocational training	514	530

The number of permanent or temporary employees is stated in full-time equivalents (FTEs). Part-time employees are included on a pro-rated basis in line with their contractual working hours. The figures do not include employees in vocational training.

10. Financial Result

10.1 Result from Investments in Affiliated Companies

The result from investments in affiliated companies mainly comprised the result of equity-method valuation of €21 million (previous year: €20 million) loss from the associated company PO JV, LP, Houston, Texas (United States), and the €6 million (previous year: €7 million) gain from Paltough Industries (1998) Ltd., Kibbuz Ramat Yochanan (Israel). This figure also included €2 million (previous year: €1 million) in dividend income from other affiliated companies.

 See note 15 "Investments Accounted for Using the Equity Method."

10.2 Net Interest Expense

Net interest expense was comprised as shown in the following table:

Net interest expense

	2020	2021
	€ million	€ million
Expenses		
Interest and similar expenses	(50)	(58)
Interest expenses for FX derivatives	(23)	(21)
Income		
Interest and similar income	6	5
Interest income from FX derivatives	20	33
Total	(47)	(41)

Interest and similar expenses primarily resulted from interest expenses from leases totaling €26 million (previous year: €28 million) and bonds issued by Covestro AG totaling €24 million (previous year: €20 million). Interest income and expenses from forward exchange contracts included interest rate-driven changes in the fair value and the forward element.

10.3 Other Financial Result

The other financial result was comprised as shown in the following table:

Other financial result

	2020	2021
	€ million	€ million
Interest portion of interest-bearing provisions	(19)	(13)
Exchange gain/(loss)	3	1
Miscellaneous financial expenses	(16)	(11)
Total	(32)	(23)

The interest portion of interest-bearing provisions mainly comprised €18 million (previous year: €24 million) in interest expense for pension and other post-employment benefit provisions plus €5 million in effects of interest income (previous year: €5 million) from interest rate fluctuations for other provisions and corresponding overfunding in fiscal 2021.

Miscellaneous financial expenses included €5 million (previous year: €2 million) in negative interest on bank deposits and money market funds.

11. Taxes

The breakdown of tax expenses by type is shown in the table below:

Income taxes

	2020	2021
	€ million	€ million
Current taxes	(199)	(628)
of which tax expense current year	(199)	(627)
of which tax expense prior years	–	(1)
Deferred taxes	48	62
of which from temporary differences	14	55
of which from tax loss carryforwards and tax credits	34	7
Total	(151)	(566)

The deferred tax assets and liabilities were allocated to the items in the statement of financial position as shown in the table below:

Deferred tax assets and liabilities

	Dec. 31, 2020			Dec. 31, 2021		
	Deferred tax assets	Deferred tax liabilities	of which recognized in profit or loss	Deferred tax assets	Deferred tax liabilities	of which recognized in profit or loss
	€ million	€ million	€ million	€ million	€ million	€ million
Intangible assets	27	(13)	14	46	(162)	(116)
Property, plant and equipment	119	(258)	(139)	125	(297)	(172)
of which right-of-use assets from application of IFRS 16	–	(127)	(127)	–	(142)	(142)
Financial assets	1	(43)	(42)	–	(57)	(51)
Inventories	41	(1)	40	85	(3)	82
Receivables	6	(24)	(18)	5	(30)	(25)
Provisions for pensions and other post-employment benefits	710	(16)	24	523	(20)	(14)
Other provisions	62	(19)	43	104	(12)	92
Liabilities	116	(3)	113	159	(2)	157
of which lease liabilities from application of IFRS 16	116	–	116	135	–	135
Tax loss carryforwards and tax credits	41	–	41	54	–	54
Total	1,123	(377)	76	1,101	(583)	7
of which noncurrent	1,060	(345)		973	(532)	
Offsetting	(198)	198		(283)	283	
Recognition	925	(179)		818	(300)	

In connection with the acquisition of the Resins & Functional Materials (RFM) business from Koninklijke DSM N.V. successfully completed on April 1, 2021, deferred tax liabilities totaling €146 million and deferred tax assets totaling €21 million were recognized as an addition to the purchase price allocation taken directly to equity. These deferred taxes were mainly included in intangible assets.

Of the total tax loss carryforwards of €482 million (previous year: €277 million), an amount of €353 million (previous year: €277 million) is expected to be usable within a foreseeable period. The increase in loss carryforwards was mainly due to the initial consolidation of a company with existing loss carryforwards, the increase in loss carryforwards in the reporting year, and tax reassessments for prior years. Deferred tax assets of €52 million (previous year: €41 million) were recognized for the amount of loss carryforwards expected to be usable.

The use of €129 million (previous year: €0 million) of existing tax loss carryforwards was subject to legal or economic restrictions.

Expiration of unusable tax loss carryforwards

	Tax loss carryforwards	
	Dec. 31, 2020	Dec. 31, 2021
	€ million	€ million
Within one year	–	8
Within two years	–	19
Within three years	–	19
Within four years	–	15
Within five years	–	11
Thereafter	–	57
Total	–	129

In the reporting year, tax credits of €2 million were recognized.

In fiscal 2021, subsidiaries that reported losses for the reporting year or the previous year recognized net deferred tax assets totaling €506 million (previous year: €719 million) from temporary differences and tax loss carryforwards. Of this amount, €27 million (previous year: €39 million) was attributable to net deferred tax assets from tax loss carryforwards. The net deferred tax assets are mainly attributable to the domestic tax group of Covestro AG. The losses are due in particular to non-recurring declines in sales and earnings in connection with the coronavirus pandemic in fiscal 2020. All of the deferred tax assets were considered to be unimpaired because the companies concerned were expected to generate taxable income and tax strategies ensure that the deferred tax assets will be utilized. Both the temporary differences and the loss carryforwards can be carried forward and used indefinitely. The planning anticipates stable, positive business performance in future business cycles.

Deferred tax liabilities of €13 million (previous year: €8 million) were recognized in the reporting year for planned dividend payments by subsidiaries. No deferred tax liabilities were recognized for temporary differences of €128 million (previous year: €88 million) relating to shares in subsidiaries, as the parent company can control the timing of the reversal of the temporary differences, and it is unlikely that these temporary differences will reverse in the foreseeable future.

The reported tax expense of €566 million (previous year: €151 million) for fiscal 2021 was €59 million higher (previous year: €25 million) than the expected tax expense of €507 million (previous year: €126 million) that would have resulted from applying an expected weighted average tax rate to the pre-tax income of the Covestro Group. This average tax rate was derived from the expected tax rates of the individual Group companies and amounted to 23.2% in fiscal 2021 (previous year: 20.8%). The effective tax rate was 25.9% (previous year: 25.0%).

The Covestro Group operates in various countries. The tax rates range from 14.1% to 34.3% (previous year: 13.9% to 34.0%) due to national regulations.

The reconciliation of expected to actual income tax expense and of the expected to the effective tax rate for the Covestro Group is shown in the following table:

Reconciliation of expected to actual income tax expense

	2020		2021	
	€ million	%	€ million	%
Expected income tax expense and expected tax rate	126	+20.8	507	+23.2
Reduction in taxes due to tax-free income	(12)	–2.0	(12)	–0.6
Increase in taxes due to non-tax-deductible expenses	19	+3.2	28	+1.3
New tax loss carryforwards unlikely to be usable	–	–	3	+0.1
Tax income (–) and expenses (+) relating to other periods	(1)	–0.2	11	+0.5
Tax effects of change in tax rates	–	–	(1)	–
Other tax effects	19	+3.2	30	+1.4
Actual income tax expense and effective tax rate	151	+25.0	566	+25.9

12. Earnings per Share

Earnings per share are calculated according to IAS 33 (Earnings per Share) as the relationship of the Group's income after income taxes (net income) for the fiscal year to the weighted average number of outstanding no-par voting shares of Covestro AG. In fiscal 2021, a weighted average number of outstanding no-par voting shares of 193,165,396 was used to calculate earnings per share, while in fiscal 2020, these shares amounted to 184,912,207. A total of 10,200,000 new, no-par value bearer shares were issued in 2020 by way of a resolution dated October 13, 2020.

Earnings per share

	2020	2021
	€ million	€ million
Income after income taxes	454	1,619
of which attributable to noncontrolling interest	(5)	3
of which attributable to Covestro AG shareholders (net income)	459	1,616
	Shares	Shares
Weighted average number of outstanding no-par voting shares of Covestro AG	184,912,207	193,165,396
	€	€
Basic earnings per share	2.48	8.37
Diluted earnings per share	2.48	8.37

Notes to the Statement of Financial Position

13. Goodwill and Other Intangible Assets

Changes in intangible assets in fiscal 2021

	Acquired goodwill	Patents and technologies	Marketing and distribution rights	Production rights	Software	Other rights	Advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2020	257	28	40	132	170	203	34	864
Acquisitions	489	176	412	–	–	37	–	1,114
Capital expenditures	–	–	–	–	2	2	15	19
Retirements	–	–	–	–	–	(1)	–	(1)
Transfers	–	–	1	–	1	–	–	2
Transfers (IFRS 5)	–	–	–	–	–	–	–	–
Exchange differences	13	4	10	1	(1)	3	–	30
Cost of acquisition or generation, December 31, 2021	759	208	463	133	172	244	49	2,028
Accumulated amortization, impairment losses and impairment loss reversals, December 31, 2021	2	27	64	132	157	183	–	565
Carrying amounts, December 31, 2021	757	181	399	1	15	61	49	1,463
Amortization and impairment losses in 2021	–	13	30	2	8	10	–	63
Amortization	–	13	30	1	8	10	–	62
Impairment losses	–	–	–	1	–	–	–	1
Impairment loss reversals in 2021	–	–	–	–	–	–	–	–

The acquisition of the Resins & Functional Materials (RFM) business from Koninklijke DSM N.V., Heerlen (Netherlands), led to significant additions of goodwill and other intangible assets.

See note 5.2 "Acquisitions and Divestitures."

In the reporting year, impairment losses of €1 million (previous year: €1 million) were recognized on goodwill and other intangible assets. As in the prior year, there were no impairment loss reversals.

The items of goodwill significant for the Covestro Group and a detailed description of the method for impairment testing goodwill and other intangible assets are presented in section "Impairment Testing".

Changes in intangible assets in fiscal 2020

	Acquired goodwill	Patents and technologies	Marketing and distribution rights	Production rights	Software	Other rights	Advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2019	265	28	92	90	156	205	36	872
Acquisitions	–	–	–	–	–	–	–	–
Capital expenditures	–	–	–	–	2	1	14	17
Retirements	–	–	–	–	(4)	(2)	–	(6)
Transfers	–	–	(48)	48	16	–	(16)	–
Transfers (IFRS 5)	–	–	(4)	(4)	–	–	–	(8)
Exchange differences	(8)	–	–	(2)	–	(1)	–	(11)
Cost of acquisition or generation, December 31, 2020	257	28	40	132	170	203	34	864
Accumulated amortization, impairment losses and impairment loss reversals, December 31, 2020	2	14	33	130	150	171	–	500
Carrying amounts, December 31, 2020	255	14	7	2	20	32	34	364
Amortization and impairment losses in 2020	1	1	6	2	7	5	–	22
Amortization	–	1	6	2	7	5	–	21
Impairment losses	1	–	–	–	–	–	–	1
Impairment loss reversals in 2020	–	–	–	–	–	–	–	–

14. Property, Plant and Equipment

Changes in property, plant and equipment in fiscal 2021

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2020	3,499	12,184	769	844	17,296
Acquisitions	112	271	24	47	454
Capital expenditures	90	324	54	497	965
Retirements	(47)	(190)	(23)	–	(260)
Transfers	84	385	16	(487)	(2)
Transfers (IFRS 5)	(9)	(1)	(2)	–	(12)
Exchange differences	142	570	43	19	774
Cost of acquisition or construction, December 31, 2021	3,871	13,543	881	920	19,215
Accumulated depreciation, impairment losses and impairment loss reversals, December 31, 2021	2,282	10,309	590	2	13,183
Carrying amounts, December 31, 2021	1,589	3,234	291	918	6,032
Depreciation and impairment losses in 2021	142	539	80	2	763
Depreciation	141	537	80	1	759
Impairment losses	1	2	–	1	4
Impairment loss reversals in 2021	(3)	–	–	–	(3)

The acquisition of the Resins & Functional Materials (RFM) business from Koninklijke DSM N.V., Heerlen (Netherlands), led to significant additions of property, plant and equipment.

 See note 5.2 "Acquisitions and Divestitures."

In the reporting year impairment losses of €4 million (previous year: €19 million) were recognised and €3 million (previous year: €0 million) impairment loss reversals for the property, plant and equipment.

Borrowing costs of €3 million (previous year: €8 million) were capitalized in property, plant, and equipment in the reporting year as part of the cost of qualifying assets. The capitalization rate applied amounted to 1.8% on average (previous year: 2.1%).

Changes in property, plant and equipment in fiscal 2020

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2019	3,427	11,856	766	1,188	17,237
Acquisitions	–	–	–	–	–
Capital expenditures	105	199	90	451	845
Retirements	(41)	(115)	(71)	(1)	(228)
Transfers	127	637	15	(779)	–
Transfers (IFRS 5)	(12)	(3)	(1)	–	(16)
Exchange differences	(107)	(390)	(30)	(15)	(542)
Cost of acquisition or construction, December 31, 2020	3,499	12,184	769	844	17,296
Accumulated depreciation, impairment losses and impairment loss reversals, December 31, 2020	2,101	9,519	500	1	12,121
Carrying amounts, December 31, 2020	1,398	2,665	269	843	5,175
Depreciation and impairment losses in 2020	163	507	82	2	754
Depreciation	150	504	81	–	735
Impairment losses	13	3	1	2	19
Impairment loss reversals in 2020	–	–	–	–	–

14.1 Leasing

Covestro as Lessee

The reported right-of-use assets from leases are recorded under property, plant and equipment.

Changes in right-of-use assets in 2021

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Total
	€ million	€ million	€ million	€ million
Carrying amounts, January 1, 2021	267	241	181	689
Additions	60	122	41	223
Retirements	(9)	(10)	(3)	(22)
Depreciation, impairment losses and impairment loss reversals	(42)	(54)	(47)	(143)
Other changes	9	15	11	35
Carrying amounts, December 31, 2021	285	314	183	782

Changes in right-of-use assets in 2020

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Total
	€ million	€ million	€ million	€ million
Carrying amounts, January 1, 2020	329	250	178	757
Additions	31	57	67	155
Retirements	(19)	(3)	(5)	(27)
Depreciation, impairment losses and impairment loss reversals	(63)	(52)	(46)	(161)
Other changes	(11)	(11)	(13)	(35)
Carrying amounts, December 31, 2020	267	241	181	689

Right-of-use assets relate mainly to leases for production and logistics infrastructure and real estate leases. Leases for production and logistics infrastructure are mainly related to the rental of tanks and containers as well as rail cars. For tanks and containers, the average lease term is 16 years (previous year: 15 years) and for rail cars, 12 years (previous year: 12 years). Leases for renting real estate, particularly buildings, are for an average lease term of 14 years (previous year: 10 years). Some of the underlying leases include variable lease payments as well as options to extend or terminate the lease.

[See note 3 "Accounting Policies and Valuation Principles."](#)

The following table shows the amounts for all leases shown in the statement of cash flows and income statement:

Expenses and cash outflows for leases

	2020	2021
	€ million	€ million
Amounts reported in the statement of cash flows		
Total cash outflow for leases	196	184
Amounts reported in the income statement		
Depreciation, impairment losses and impairment loss reversals	161	143
Interest expense	28	26
Expenses relating to short-term leases	11	14
Expenses relating to leases of low-value assets	3	2
Expenses relating to variable lease payments not included in the lease liability	2	2

As of December 31, 2021, the lease commitments for short-term leases not recognized on the balance sheet amount to €6 million (previous year: €3 million).

Further information on the lease liabilities arising from leases and details on payments from leases are described in the following notes:

[Note 22 "Financing and Financial Liabilities."](#)

[Note 27 "Notes to the Statement of Cash Flows."](#)

Covestro as Lessor

In the reporting year, leasing income generated from lease contracts under IFRS 16 (Leases) was €8 million (previous year: €11 million). These are mainly related to real estate. In addition, lease payments from rentals of €4 million (previous year: €7 million) are expected to be received in the following year, not including the investment property as outlined below. Lease payments totaling €5 million are expected to be received in the period from 2023–2026, and lease payments totaling €4 million after the year 2026.

At Covestro, risks from renting real estate are usually limited by building insurance policies and by the contractual obligation of the renter to return the real estate to its original condition. In addition, price adjustments based mainly on the consumer price index mechanisms are contractually agreed.

14.2 Investment Property

Internal valuations are used as the primary basis for determining the fair values of investment property. The income approach is used for buildings and developed sites, and the market comparison approach is used for undeveloped sites.

The total carrying amount of investment property as of December 31, 2021, amounted to €23 million (previous year: €24 million), and its fair value totaled €223 million (previous year: €210 million). The rental income from investment property was €13 million (previous year: €17 million) and the operating expenses directly allocable to this property amounted to €10 million (previous year: €14 million). In the reporting period and in the previous year, there were no material operating expenses recognized for investment property not generating any rental income.

Rental income generated from the leasing of properties classified as investment properties stemmed in part from contracts for hereditary building rights and leases granted by the Covestro Group. These contracts with a weighted average remaining term of 34 years relate to space used by companies and contractual partners in the chemical industry at production sites in Germany. Based on current rental prices, around €5 million in compensation will be received annually from these long-term contracts for the use of this space in the coming years.

15. Investments Accounted for Using the Equity Method

The two following tables contain summarized data from the income statement and statement of financial position of the associate PO JV, LP, Houston, Texas (United States), which is accounted for using the equity method, and show the respective amounts recognized in the financial statements of the Covestro Group.

See note 5.1 "Scope of Consolidation and Investments" for an overview of the companies accounted for using the equity method.

In year 2000, the polyols business and parts of the propylene oxide (PO) production operations of former Lyondell Chemicals Company, Houston, Texas (United States), were acquired with the objective of ensuring access to patented technologies and safeguarding the long-term supply of PO, a precursor for polyurethanes. As part of this strategy, a company was established to jointly produce PO (PO JV, LP, in which Covestro continues to hold a 39.4% interest, as in the prior year). Covestro benefits from fixed long-term supply quotas/volumes of PO from this company's production.

Income statement data of PO JV, LP, Houston, Texas (United States)

	2020	2021
	€ million	€ million
Sales	1,231	2,063
Net loss after taxes	(59)	(58)
Share of net loss after taxes	(20)	(21)
Share of total comprehensive income after taxes	(20)	(21)

Statement of financial position data of PO JV, LP, Houston, Texas (United States)

	Dec. 31, 2020	Dec. 31, 2021
	€ million	€ million
Noncurrent assets	358	359
Equity	358	359
Share of equity	157	156
Other	(12)	(15)
Carrying amount	145	141

The item "Other" mainly comprises differences arising from adjustments of data to Covestro's uniform accounting policies, purchase price allocations and their subsequent measurement.

The following table contains the income statement data and carrying amounts of Paltough Industries (1998) Ltd., Kibbuz Ramat Yochanan (Israel) (Covestro's interest unchanged from the prior year at 25%):

Income statement data and carrying amounts of Paltough Industries (1998) Ltd., Kibbuz Ramat Yochanan (Israel)

	2020	2021
	€ million	€ million
Income after taxes	29	25
Share of income after taxes	7	6
Share of total comprehensive income after taxes	7	6
Carrying amount	28	31

16. Other Financial Assets

The other financial assets were comprised as follows:

Other financial assets

	Dec. 31, 2020		Dec. 31, 2021	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Money market funds	771	771	65	65
Loans and bank deposits	365	360	402	394
Other investments	14	–	27	–
Receivables from derivatives	18	13	40	34
Receivables under lease agreements	8	–	8	–
Total	1,176	1,144	542	493

In fiscal 2021, money market funds totaling €500 million were transferred to Metzler Trust e.V., Frankfurt am Main (Germany).

Receivables from derivatives included currency forward contracts of €34 million (previous year: €13 million) and embedded derivatives of €6 million (previous year: €5 million).

See note 24.2 "Financial Risk Management and Information on Derivatives."

See note 24.1 "Financial Instruments by Category" for further information regarding money market funds, loans and bank deposits and other investments.

Receivables under lease agreements relate to finance leases where Covestro is the lessor and the economic owner of the leased assets is the contractual partner. Receivables under lease agreements are based on expected future lease payments of €32 million (previous year: €33 million) including an interest component of €24 million (previous year: €25 million). In the reporting period, interest income for finance leases of €1 million (previous year: €1 million) was recognized. Of the expected lease payments, €1 million is due within one year (previous year: €1 million), €3 million is due within the following four years (previous year: €3 million) and €28 million is due in subsequent years (previous year: €29 million).

17. Inventories

Inventories were comprised as follows:

Inventories

	Dec. 31, 2020	Dec. 31, 2021
	€ million	€ million
Raw materials and supplies	537	830
Work in process, finished goods and goods purchased for resale ¹	1,123	2,081
Advance payments	3	3
Total	1,663	2,914

¹ In fiscal 2021, work in process comprises approximately 21% (previous year: approximately 19%).

The significant increase in inventories was mainly attributable to external market conditions in fiscal 2021, in particular higher procurement and energy prices, as well as build-up in order to ensure supply reliability in fiscal 2022.

In fiscal 2021, impairment losses on inventories of €22 million (previous year: €24 million) and reversals of impairment losses of €5 million (previous year: €6 million) were recognized through profit or loss in cost of goods sold.

18. Other Receivables

The other receivables were comprised as follows:

Other receivables

	Dec. 31, 2020		Dec. 31, 2021	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Other tax receivables	108	104	226	223
Deferred charges	81	75	99	90
Contract assets	43	43	62	62
Receivables from employees	6	6	8	8
Receivables from divestments	11	–	13	13
Reimbursement claims	2	2	2	2
Net defined benefit asset	2	–	4	–
Miscellaneous receivables	107	65	96	36
Total	360	295	510	434

Other receivables included €30 million (previous year: €31 million) in financial receivables. The impairment losses on financial receivables as of the reporting date are immaterial.

 See note 6 “Sales” for further information on contract assets.

19. Equity

The individual components of equity and changes in equity in fiscal years 2020 and 2021 are presented in the Covestro Group consolidated statement of changes in equity.

Capital stock

The capital stock of Covestro AG changed as follows in fiscal 2021:

Change in capital stock

	Number of shares	Of which treasury shares	Shares carrying dividend rights	Capital stock
	number	number	number	€ million
Dec. 31, 2020	193,200,000	(39,456)	193,160,544	193
Issuance of treasury shares		39,456	39,456	–
Dec. 31, 2021	193,200,000	–	193,200,000	193

Covestro AG's capital stock as of December 31, 2021, is divided into 193,200,000 (previous year: 193,200,000) no-par value bearer shares and is fully paid up. Each share confers the right to one vote.

Treasury Shares

Covestro AG issued 39,456 (previous year: 95,859) treasury shares to employees of the German legal entities under the Covestment share-based participation program. As of December 31, 2021, the company held no treasury shares (previous year: 39,456, corresponding to 0.02% of the capital stock).

Authorized and Conditional Capital

The annual general meeting (AGM) passed a resolution on April 16, 2021, authorizing the Board of Management to increase the capital stock by up to €57,960,000 in the period up to April 15, 2026, with the approval of the Supervisory Board, by issuing new, no-par value bearer shares against cash contributions and/or contributions in kind (Authorized Capital 2021).

The Authorized Capital 2021 has not been utilized to date.

On July 30, 2020, the AGM authorized the Board of Management to issue bonds with conversion or exchange rights or warrants, or with conversion obligations, or a combination of these instruments on up to 18,300,000 no-par value bearer shares of Covestro AG. Based on this authorization, convertible/warrant bonds can be issued up to a total nominal value of €2 billion by the company or a Group company in the period up to July 29, 2025. The AGM in the year 2020 also resolved to conditionally increase the capital stock by up to €18.3 million by issuing up to 18,300,000 no-par value bearer shares to grant shares to the holders or creditors of such convertible/warrant bonds (Conditional Capital 2020).

The Conditional Capital 2020 has not been utilized to date.

Capital Reserves

Covestro AG's capital reserves as of December 31, 2021, amounted to €3,927 million (previous year: €3,925 million). The increase is attributable to the issuance of treasury shares under the Covestment program (€2 million).

Dividend

The dividend available for distribution is based on the distributable profit reported in the annual financial statements of Covestro AG, which were prepared according to the provisions of the German Commercial Code (HGB). The dividend proposed for fiscal 2021 amounts to €3.40 per share carrying dividend rights for a total distribution of €657 million based on the number of shares carrying dividend rights as of December 31, 2021, and depends on authorization by the shareholders at the Annual General Meeting. It is therefore not recognized as a liability in the consolidated financial statements. For fiscal 2020, a dividend of €1.30 per share carrying dividend rights was paid in April 2021.

Equity Attributable to Noncontrolling Interest

The equity attributable to noncontrolling interest mainly relates to the equity of Sumika Covestro Urethane Company, Ltd., Hyogo (Japan); Covestro Eternal Resins (Kunshan) Co., Ltd., Kunshan (China); Japan Fine Coatings Co., Ltd., Ibaraki (Japan); Covestro Eternal Resins (Far East) Ltd. Pingtung (Taiwan, Greater China); DIC Covestro Polymer Ltd., Tokyo (Japan); and Covestro (Taiwan) Ltd., Kaohsiung City (Taiwan, Greater China).

The changes in equity attributable to noncontrolling interest are presented in the following table:

Components of noncontrolling interest in equity

	2020	2021
	€ million	€ million
January 1	47	37
Change in equity not recognized in profit or loss		
Exchange differences on translation of operations outside the eurozone	(3)	2
Other changes in equity	–	35
Dividend payments	(2)	(11)
Change in equity recognized in profit or loss	(5)	3
December 31	37	66

Accumulated Other Comprehensive Income

Accumulated other comprehensive income was as follows:

Accumulated other comprehensive income

	Currency translation	Accumulated other comprehensive income
	€ million	€ million
Jan. 1, 2020	415	415
Other comprehensive income	(206)	(206)
Total comprehensive income	(206)	(206)
Dec. 31, 2020	209	209
Other comprehensive income	365	365
Total comprehensive income	365	365
Dec. 31, 2021	574	574

20. Provisions for Pensions and Other Post-Employment Benefits

Provisions for pensions and other post-employment benefits were recognized for defined benefit obligations.

☐ See note 9 "Personnel Expenses and Employee Numbers" for the expenses for defined contribution obligations.

The net defined benefit liability for post-employment benefit plans was accounted for as follows:

Net defined benefit liability reflected in the statement of financial position

	Pensions		Other post-employment benefits		Total	
	Dec. 31, 2020	Dec. 31, 2021	Dec. 31, 2020	Dec. 31, 2021	Dec. 31, 2020	Dec. 31, 2021
	€ million	€ million	€ million	€ million	€ million	€ million
Provisions for pensions and other post-employment benefits	1,977	1,054	146	145	2,123	1,199
Germany	1,862	948	–	–	1,862	948
Other countries	115	106	146	145	261	251
Net defined benefit asset	2	4	–	–	2	4
Germany	2	3	–	–	2	3
Other countries	–	1	–	–	–	1
Net defined benefit liability	1,975	1,050	146	145	2,121	1,195
Germany	1,860	945	–	–	1,860	945
Other countries	115	105	146	145	261	250

The expenses for defined benefit plans and for other post-employment benefits included the components described as follows:

Expenses for defined benefit plans

	Pension plans						Other post-employment benefit plans	
	Germany		Other countries		Total		Other countries	
	2020	2021	2020	2021	2020	2021	2020	2021
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Current service cost	97	97	11	12	108	109	2	2
Past service cost	12	3	–	1	12	4	–	–
Service cost	109	100	11	13	120	113	2	2
Interest expense from defined benefit obligation	41	31	15	11	56	42	4	3
Interest income from plan assets	(24)	(19)	(12)	(8)	(36)	(27)	–	–
Net interest	17	12	3	3	20	15	4	3
Total expenses	126	112	14	16	140	128	6	5

In fiscal 2021, a total of €510 million in income (previous year: expense of €130 million) in effects of remeasurements of the net defined benefit liability was also recognized in other comprehensive income. This resulted largely from a rise in discount rates. Of this amount, €500 million (previous year: expense of €119 million) relates to pension obligations and €10 million (previous year: expense of €11 million) to other post-employment benefit obligations.

The changes in the net defined benefit liability for post-employment benefit plans were as follows:

Changes in the present value of the defined benefit obligation

	2020			2021		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	4,154	790	4,944	4,487	771	5,258
Acquisition	–	–	–	16	6	22
Divestment	(3)	(3)	(6)	–	–	–
Current service cost	97	13	110	97	14	111
Past service cost	12	–	12	3	1	4
Interest expense from defined benefit obligation	41	19	60	31	14	45
Net actuarial (gain)/loss	225	69	294	(388)	(41)	(429)
of which due to change in financial assumptions	223	64	287	(363)	(46)	(409)
of which due to change in demographic assumptions	–	(4)	(4)	–	–	–
of which due to experience adjustments	2	9	11	(25)	5	(20)
Employee contributions	10	1	11	14	1	15
Payments due to plan settlements ¹	8	(8)	–	2	(1)	1
Benefits paid out of plan assets	(28)	(41)	(69)	(31)	(46)	(77)
Benefits paid by the company	(29)	(17)	(46)	(33)	(13)	(46)
Exchange differences	–	(52)	(52)	–	47	47
December 31	4,487	771	5,258	4,198	753	4,951
of which other post-employment benefits	–	147	147	–	147	147

¹ Payments due to plan settlements may include transfers from and to other companies in the course of employee transfers for which benefits are granted as part of a multi-employer plan managed as a pension plan by the transferring and receiving company.

Changes in fair value of plan assets

	2020			2021		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	2,457	526	2,983	2,627	510	3,137
Acquisition	–	–	–	1	5	6
Divestment	(1)	(3)	(4)	–	–	–
Interest income from plan assets	24	12	36	19	8	27
Return or (expense) on plan assets excluding amounts recognized as interest result	116	47	163	93	(10)	83
Employer contributions	43	10	53	531	8	539
Employee contributions	10	1	11	14	1	15
Payments due to plan settlements ¹	6	(7)	(1)	–	(1)	(1)
Benefits paid out of plan assets	(28)	(41)	(69)	(31)	(46)	(77)
Plan administration cost paid out of plan assets	–	–	–	(1)	–	(1)
Exchange differences	–	(35)	(35)	–	30	30
December 31	2,627	510	3,137	3,253	505	3,758
of which other post-employment benefits	–	1	1	–	2	2

¹ Payments due to plan settlements may include transfers from and to other companies in the course of employee transfers for which benefits are granted as part of a multi-employer plan managed as a pension plan by the transferring and receiving company.

Effects of the asset ceiling

	2020			2021		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	–	2	2	–	–	–
Remeasurement of asset ceiling	–	(1)	(1)	–	2	2
Exchange differences	–	(1)	(1)	–	–	–
December 31	–	–	–	–	2	2
of which other post-employment benefits	–	–	–	–	–	–

Development of the net defined benefit liability

	2020			2021		
	Germany	Other countries	Total	Germany	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million
January 1	1,697	266	1,963	1,860	261	2,121
Acquisition	–	–	–	15	1	16
Divestment	(2)	–	(2)	–	–	–
Current service cost	97	13	110	97	14	111
Past service cost	12	–	12	3	1	4
Net interest	17	7	24	12	6	18
Net actuarial (gain) / loss	225	69	294	(388)	(41)	(429)
(Return) or expense on plan assets excluding amounts recognized as interest result	(116)	(47)	(163)	(93)	10	(83)
Remeasurement of asset ceiling	–	(1)	(1)	–	2	2
Employer contributions	(43)	(10)	(53)	(531)	(8)	(539)
Employee contributions	–	–	–	–	–	–
Payments due to plan settlements ¹	2	(1)	1	2	–	2
Benefits paid out of plan assets	–	–	–	–	–	–
Benefits paid by the company	(29)	(17)	(46)	(33)	(13)	(46)
Plan administration cost paid out of plan assets	–	–	–	1	–	1
Exchange differences	–	(18)	(18)	–	17	17
December 31	1,860	261	2,121	945	250	1,195
of which other post-employment benefits	–	146	146	–	145	145

¹ Payments due to plan settlements may include transfers from and to other companies in the course of employee transfers for which benefits are granted as part of a multi-employer plan managed as a pension plan by the transferring and receiving company.

The benefit obligations pertained mainly to Germany (85%; previous year: 85%) and the United States (11%; previous year: 11%). In Germany, current employees accounted for about 57% (previous year: about 61%) of entitlements under defined benefit plans, retirees or their surviving dependents for about 35% (previous year: about 31%), and former employees with vested pension rights for about 8% (previous year: about 8%). In the United States, current employees accounted for about 38% (previous year: about 40%) of entitlements under defined benefit plans, retirees or their surviving dependents for about 54% (previous year: about 53%), and former employees with vested pension rights for about 8% (previous year: about 7%).

The actual income from plan assets of defined benefit plans for pensions amounted to €110 million (previous year: €199 million). No income was accrued from plan assets for other post-employment benefits either in the reporting period or the prior year.

The following table shows the defined benefit obligations for pensions and other post-employment benefits along with the funded status of the funded obligations:

Defined benefit obligation and funded status

	Pension obligations		Other post-employment benefit obligations		Total	
	2020	2021	2020	2021	2020	2021
	€ million	€ million	€ million	€ million	€ million	€ million
Defined benefit obligation	5,111	4,804	147	147	5,258	4,951
Unfunded	94	135	144	143	238	278
Funded	5,017	4,669	3	4	5,020	4,673
Funded status of funded obligations						
Overfunding	2	6	–	–	2	6
Underfunding	1,883	919	2	2	1,885	921

Pension Entitlements and Other Post-Employment Benefit Obligations

The Covestro Group provides retirement benefits for most of its employees, either directly or by contributing to privately or publicly administered funds. The way these benefits are provided varies according to the legal, tax, and economic conditions of each country, the benefits generally being based on employee compensation and years of service. The obligations relate both to existing retirees' pensions and to pension entitlements of future retirees.

Funded pension plans exist for employees in various countries. In principle, an individual investment strategy is determined for each of the Covestro Group's defined benefit pension plans taking into account the risk structure of the obligations (especially demographics, the current funded status, the structure of the expected future cash flows, interest sensitivity, biometric risks, etc.), the regulatory environment, and the existing level of risk tolerance or risk capacity. A strategic target investment portfolio is then developed in line with the plan's risk structure, taking capital market factors into consideration. Further determinants are risk diversification, portfolio efficiency and the need for both a country-specific and a global risk/return profile centered on ensuring the payment of all future benefits. In principle, as the capital investment strategy for each pension plan is developed individually in light of the plan-specific conditions listed above, the investment strategies for different pension plans may vary considerably. The investment strategies are generally aligned less toward maximizing absolute returns and more toward the reasonable assurance of financing pension commitments over the long term. For plan assets, stress scenarios are simulated and other risk analyses (such as value at risk) are undertaken with the aid of risk management systems.

In addition to investment strategies tailored to the obligations, funding in the form of regular or unscheduled contributions is also an effective instrument for reducing risk. Potential funding measures for pension obligations are therefore selected taking into account country-specific regulatory requirements and liquidity. If an unscheduled contribution is made, the funded status may increase significantly under certain circumstances and thereby reduce the volatility of the net defined benefit liability recognized. As a consequence the level of liability-driven investments in plan assets can be further increased. In addition, the expected future liability on operating cash flows is reduced due to the increase in plan assets that are available to settle pension payments.

Bayer-Pensionskasse VVaG, Leverkusen (Germany), (Bayer-Pensionskasse) is a significant pension plan for Covestro. It has been closed to new members since January 1, 2005. This legally independent fund is regarded as a life insurance company and is therefore subject to the German Insurance Supervision Act. The benefit obligations covered by Bayer-Pensionskasse comprise retirement, surviving dependents' and disability pensions. It is financed with contributions by the active members and by their employers. The company contribution is a certain percentage of the employee contribution. This percentage is the same for all participating employers and is set by agreement between the plan's executive committee and supervisory board, acting on a proposal from the responsible actuary. It takes into account the differences between the actuarial estimates and the actual values for the factors used to determine liabilities and contributions. Bayer AG, Leverkusen (Germany), (Bayer AG) may adjust the company contribution in agreement with the plan's executive committee and supervisory board, acting on a proposal from the responsible actuary. The plan's liability is governed by Section 1, Paragraph 1, Sentence 3 of the German Law on the Improvement of Occupational Pensions (BetrAVG). This means that if the

pension plan exercises its right under the articles of association to reduce benefits, each participating employer has to make up the resulting difference. Covestro is not liable for the obligations of other participating employers, even if they cease to participate in the plan.

Pension entitlements were granted via Rheinische Pensionskasse VVaG, Leverkusen (Germany), (Rheinische Pensionskasse) between January 1, 2005, and December 31, 2020. It has been closed to new members since January 1, 2021. Future pension payments from this plan are based among other things on contributions and the return on plan assets; a guaranteed interest rate applies.

The Bayer-Pensionskasse and Rheinische Pensionskasse pension obligations are classified as multi-employer plans as defined by IAS 19 (Employee Benefits). A defining characteristic of multi-employer plans is that assets from various employers not under common control are pooled at plan level and used to collectively grant pension benefits to employees. Allocation mechanisms that would permit an exact distribution of the plan assets managed by the pension plan to individual employers often do not exist, as in the case of Bayer-Pensionskasse and Rheinische Pensionskasse. Covestro therefore applies an estimation method that is adequately suited to this purpose to calculate its proportional share of the assets of the pension plans.

Pension entitlements for newly hired employees have been granted by Pensionplan2021 since January 1, 2021. This is a funded company pension plan. Contributions are invested in an age-based investment model at the individual employee level. Future pension payments are determined based on the contributions paid in and the return achieved. The pension entitlements are managed by Metzler Trust e. V., Frankfurt am Main, (Germany), (Metzler Trust). Individuals employed at Covestro prior to January 1, 2021, who acquired pension entitlements via Rheinische Pensionskasse are entitled to switch to Pensionsplan2021.

Metzler Trust is also used as a pension vehicle for further obligations than Pensionplan2021. This vehicle covers further retirement provision arrangements for German employees of the Covestro Group, such as the conversion of salary entitlements into pension entitlements, pension obligations, and components of other direct commitments. Metzler Trust covers the majority of funded pension commitments in Germany. Around 35% of the investment total adheres to ESG (environmental, social, and governance) criteria.

The defined benefit pension plans in the United States have been frozen for some years, and no significant new entitlements can be earned under these plans. The assets of all the U.S. pension plans are held by a master trust for reasons of efficiency. The applicable regulatory framework is based on the Employee Retirement Income Security Act (ERISA). The actuarial risks, such as investment risk, interest rate risk and longevity risk, remain with the company.

The other post-employment benefit obligations outside Germany are mainly related to retirees' health care benefit payments in the United States.

The fair value of the plan assets to fund pensions and other post-employment benefit obligations was as follows:

Fair value of plan assets as of December 31

	Pension obligations				Other post-employment obligations	
	Germany		Other countries		Other countries	
	2020 € million	2021 € million	2020 € million	2021 € million	2020 € million	2021 € million
Plan assets based on quoted prices in active markets						
Real estate and special real estate funds	–	–	6	6	–	–
Equities and equity funds	556	495	52	51	–	–
Callable debt instruments	–	–	9	10	–	–
Noncallable debt instruments	782	727	72	45	–	–
Bond funds	415	415	233	253	–	–
Derivatives	1	–	–	–	–	–
Cash and cash equivalents	154	759	8	10	–	–
Other	–	–	9	10	–	–
	1,908	2,396	389	385	–	–
Plan assets for which quoted prices in active markets are not available						
Real estate and special real estate funds	145	194	–	–	–	–
Equities and equity funds	29	70	–	–	–	–
Callable debt instruments	199	224	–	–	–	–
Noncallable debt instruments	331	303	–	–	–	–
Bond funds	–	–	–	–	–	–
Derivatives	–	–	–	–	–	–
Cash and cash equivalents	–	–	–	–	–	–
Other	15	66	120	118	1	2
	719	857	120	118	1	2
Total plan assets	2,627	3,253	509	503	1	2

No properties leased by Group companies were included in the fair value of the domestic plan assets. Likewise, there were no Covestro shares or bonds held through funds. The other plan assets comprise mortgage loans granted, other receivables and qualified insurance policies. In November 2021, current financial assets (money market funds) in the amount of €500 million were transferred to Metzler Trust to cover future pension entitlements and are reported in plan assets under cash and cash equivalents.

Risks

The risks from defined benefit plans arise partly from the defined benefit obligations and partly from the investment in plan assets. The risks lie in the possibility that higher direct pension payments will have to be made to the beneficiaries and/or that additional contributions will have to be made to plan assets in order to meet current and future pension obligations.

Demographic/Biometric Risks

Since a large proportion of the defined benefit obligations comprises lifelong pensions or surviving dependents' pensions, longer claim periods or earlier claims may result in higher benefit obligations, higher benefit expense and/or higher pension payments than previously anticipated.

Investment Risks

If the actual return on plan assets were below the return anticipated on the basis of the discount rate, the net defined benefit liability would increase, assuming there were no changes in other parameters. This could happen as a result of a drop in share prices, increases in market rates of interest, default of individual debtors or the purchase of low-risk but low-interest bonds, for example.

Interest Rate Risks

Declining capital market interest rates, especially for high-quality corporate bonds, would increase the defined benefit obligation. This effect would be at least proportionately offset by the ensuing increase in the fair values of the debt instruments held in plan assets.

Measurement Parameters and their Sensitivities

The bond portfolio consists exclusively of high-quality corporate bonds with a rating of at least AA or AAA. The portfolio does not include any government-guaranteed or secured bonds. The following weighted parameters were used to measure the pension obligations as of December 31 and the expense for pensions and other post-employment benefits in the respective reporting year.

Parameters for benefit obligations

	Germany		Other countries		Total	
	2020	2021	2020	2021	2020	2021
	%	%	%	%	%	%
Pension obligations						
Discount rate	0.70	1.20	1.70	2.15	0.80	1.30
Projected future salary increases	2.75	2.75	2.95	2.95	2.75	2.80
Projected future benefit increases	1.60	1.80	2.72	2.75	1.75	1.90
Other post-employment benefit obligations						
Discount rate	–	–	2.30	2.75	2.30	2.75

In Germany, the Heubeck 2018 G mortality tables were used, in the United States the MP-2021 Mortality Tables. The parameters for measuring the benefit expense are the same as those used to measure the benefit obligations in the most recent annual financial statements.

The parameter sensitivities were computed by expert actuaries based on a detailed evaluation similar to that performed to determine the net defined benefit liability. Altering individual parameters by 0.5 percentage points (mortality by 10% per beneficiary) while leaving the other parameters unchanged would have impacted pension and other post-employment benefit obligations as of the end of fiscal year 2021 as follows:

Sensitivity analysis of benefit obligations

	Germany		Other countries		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
0.5 percentage points change in discount rate	(401)	464	(32)	36	(433)	500
0.5 percentage points change in projected future salary increases	28	(26)	3	(3)	31	(29)
0.5 percentage points change in projected future benefit increases	244	(221)	2	(2)	246	(223)
10% change in mortality	(130)	147	(12)	13	(142)	160
Other post-employment benefit obligations						
0.5 percentage points change in discount rate	–	–	(9)	10	(9)	10
10% change in mortality	–	–	(4)	5	(4)	5

Sensitivity analysis of benefit obligations (previous year)

	Germany		Other countries		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
0.5 percentage points change in discount rate	(457)	533	(36)	40	(493)	573
0.5 percentage points change in projected future salary increases	37	(34)	3	(3)	40	(37)
0.5 percentage points change in projected future benefit increases	269	(242)	3	(2)	272	(244)
10% change in mortality	(145)	164	(12)	13	(157)	177
Other post-employment benefit obligations						
0.5 percentage points change in discount rate	–	–	(9)	10	(9)	10
10% change in mortality	–	–	(4)	5	(4)	5

Provisions are also set up for the obligations, mainly of Covestro LLC, Pittsburgh, Pennsylvania (United States), to provide post-employment benefits in the form of health care cost payments to retirees. The valuation of health care costs was based on the assumption that they will increase at a rate of 6% (previous year: 7%), which should gradually decline to 5% (previous year: 5%) by 2032. The following table shows the impact of a one-percentage-point change in the assumed health care cost increase rates:

Sensitivity analysis of health care cost increases

	2020		2021	
	Increase of one percentage point	Decrease of one percentage point	Increase of one percentage point	Decrease of one percentage point
	€ million	€ million	€ million	€ million
Impact on other post-employment benefit obligations	13	(10)	11	(10)

Employer Contributions Made or Expected

The following payments or transfers correspond to the employer contributions made or expected to be made to funded benefit plans:

Employer contributions made or expected

	Germany				Other countries			
	2020	2021 expected	2021	2022 expected	2020	2021 expected	2021	2022 expected
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations	43	38	531	33	8	7	7	9
Other post-employment benefit obligations	–	–	–	–	2	–	1	–
Total	43	38	531	33	10	7	8	9

Pensions and other post-employment benefits payable in the future from funded and unfunded plans are estimated as follows:

Future benefit payments

	Payments out of plan assets				Payments by the company			
	Pensions		Other post-employment benefits	Total	Pensions		Other post-employment benefits	Total
	Germany	Other countries	Other countries		Germany	Other countries	Other countries	
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
2022	37	46	–	83	40	6	6	52
2023	40	30	–	70	42	5	7	54
2024	42	36	–	78	44	6	7	57
2025	45	32	–	77	47	7	7	61
2026	49	32	–	81	50	7	7	64
2027–2031	296	172	2	470	291	36	39	366

The weighted average term of the pension obligations is 20.8 years (previous year: 23.3 years) in Germany and 11.5 years (previous year: 12.4 years) in other countries. The weighted average term of the obligations for other post-employment benefits in other countries is 12.3 years (previous year: 12.8 years).

21. Other Provisions

Changes in the various provision categories in fiscal 2021 were as follows:

Changes in other provisions

	Taxes	Environ- mental protection	Restruc- turing	Trade- related commit- ments	Litigations	Personnel commit- ments	Miscella- neous	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
December 31, 2020	3	44	3	12	4	267	40	373
Acquisitions	–	1	–	–	–	14	1	16
Additions	3	4	7	26	2	617	47	706
Utilization	(3)	(3)	(3)	(18)	(2)	(172)	(14)	(215)
Reversal	–	–	(1)	(2)	–	(22)	(8)	(33)
Interest cost	–	–	–	–	–	(2)	–	(2)
Exchange differences	–	2	1	–	–	12	–	15
December 31, 2021	3	48	7	18	4	714	66	860
thereof long-term	–	45	3	2	–	148	25	223

Taxes

Provisions for taxes comprise provisions for other types of non-income taxes amounting to €3 million (previous year: €3 million).

Environmental Protection

Provisions for environmental protection mainly relate to the rehabilitation of contaminated land and recultivation of landfills as well as water protection measures at sites in the United States and Spain.

Restructuring

As of December 31, 2021, provisions for restructuring included €7 million (previous year: €2 million) for severance payments.

Personnel Commitments

Personnel-related provisions are mainly those recorded for variable one-time, short-term and long-term incentive payments and other personnel-related provisions.

Long-term Incentive Programs

The long-term incentive programs of the Covestro Group entail commitments offered collectively to different groups of employees. In principle, all obligations from long-term compensation programs are covered by provisions. As of the reporting date, their amount corresponds to the fair value of the entitlement earned of the respective commitments to the employee groups. All resulting valuation adjustments are recognized in profit or loss.

The Board of Management, senior executives and other managerial employees at Covestro are entitled to participate in the Prisma long-term, share-based compensation program. A percentage of the employee's annual base salary – based on his/her position – is defined as a target for variable payments (Prisma target opportunity). The payout is calculated by multiplying the Prisma target opportunity by the total shareholder return (total of Covestro's closing share price* and all of the dividends distributed in the respective performance period divided by the opening share price) and the performance of Covestro stock relative to the STOXX Europe 600 Chemicals benchmark index. In 2021, Prisma was expanded to include a sustainability component that covers Covestro's target for reducing greenhouse gas emissions (CO₂ equivalents, CO₂e).

[See "Compensation Report" in the Group Management Report for more information on the LTI sustainability component.](#)

* Calculated as the average price for the last 30 days of trading in the relevant performance period.

The payout is capped at 200% of the Prisma target opportunity. If Covestro's shares were to significantly underperform the STOXX Europe 600 Chemicals index (e.g., if the share price went down while the index increased in value), Prisma target attainment could amount to zero, in which case there would be no payout. The target achievement for the 2017–2020 tranche amounted to 39.9% and was distributed in the amount of €9 million mainly in January 2021.

The net expense for all long-term incentive programs amounted to €17 million (previous year: €23 million), of which €5 million (previous year: €3 million) was attributable to the Covestment share-based participation program, explained in greater detail in the following section.

The fair value for the Prisma share-based incentive program recognized in the provision amounted to €40 million as of December 31, 2021 (previous year: €35 million). The fair value was calculated using the Monte Carlo simulation method on the basis of the following key parameters pertaining to the reporting date:

Monte Carlo simulation parameters

	Tranche		
	2019	2020	2021
Risk-free interest rate	–0.47%	–0.27%	–0.15%
Stock price volatility	+28.08%	+36.56%	+35.12%
STOXX Europe 600 Chemicals volatility	+13.67%	+22.70%	+20.63%
Correlation between stock price and STOXX Europe 600 Chemicals	0.60	0.74	0.73

Share-Based Participation Program (Covestment)

Under the Covestment program, employees of numerous Group companies could invest a fixed amount of their compensation in Covestro shares in fiscal 2021, which Covestro supplemented through an employer subsidy. The discount granted for fiscal 2021 was generally 20%–30% of the subscription amount and is set every year. The total individual investment amount was capped at €3,600, depending on the Group company and the employee's position. Overall, 99% of Covestro's global workforce was authorized to participate in Covestment.

Around 282,000 shares were purchased by employees at a weighted average share price of €55.04 under the Covestment program in fiscal 2021. Depending on the Group company, the purchased shares are subject to a vesting period of at least one year from the subscription date.

22. Financing and Financial Liabilities

The €5.0 billion Debt Issuance Program launched in the first quarter of 2016 is a key form of external financing. In fiscal 2016, Covestro placed euro bonds totaling €1.5 billion, of which one fixed-rate tranche with a term until September 2024 (a coupon of 1.75% and a volume of €500 million) remains in the portfolio. One tranche with a term until October 2021 (a coupon of 1.00% and a volume of €500 million) was repaid ahead of schedule in full at par value on July 7, 2021. An additional €1.0 billion in euro bonds was placed in 2020. The fixed-rate bonds have terms expiring in February 2026 (a coupon of 0.875% and a volume of €500 million) and June 2030 (a coupon of 1.375% and a volume of €500 million).

Moreover, Covestro AG arranged a credit facility for a total of €50 million in December 2021.

As of December 31, 2021, the Group had total credit facilities of €2,817 million (previous year: €3,969 million) at its disposal. Of this amount, €2.5 billion is attributable to the five-year syndicated revolving credit facility arranged in March 2020. It includes two options to extend the term by one year in each case. One option to extend was exercised in March 2021 to extend the term of the syndicated revolving credit facility to March 2026. An important feature of the credit line is its link to an ESG (environment, social, and governance) rating: The better (worse) the externally calculated ESG score is, the lower (higher) the interest component of the credit facility.

A total of €275 million (previous year: €227 million) of the existing credit facilities was drawn down, while €2,542 million (previous year: €3,742 million) remained unused.

Financial liabilities were comprised as follows:

Financial liabilities

	Dec. 31, 2020		Dec. 31, 2021	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Bonds	1,990	500	1,492	–
Liabilities to banks	227	2	275	50
Lease liabilities	672	111	761	130
Liabilities from derivatives	9	9	11	11
Other financial liabilities	1	–	2	1
Total	2,899	622	2,541	192

Maturities of financial liabilities

Dec. 31, 2020		Dec. 31, 2021	
Maturity	€ million	Maturity	€ million
2021	622	2022	192
2022	115	2023	135
2023	90	2024	580
2024	554	2025	293
2025	268	2026	556
2026 or later	1,250	2027 or later	785
Total	2,899	Total	2,541

The financial liabilities of the Covestro Group are mainly unsecured.

Lease Liabilities

Lease payments of €893 million (previous year: €782 million) are to be made to the respective lessors in future years; of this amount, the interest component amounts to €132 million (previous year: €110 million). The lease liabilities mature as follows:

Lease liabilities

Dec. 31, 2020				Dec. 31, 2021			
	Lease payments	Interest component	Lease liabilities		Lease payments	Interest component	Lease liabilities
Maturity	€ million	€ million	€ million	Maturity	€ million	€ million	€ million
2021	131	20	111	2022	150	20	130
2022	132	17	115	2023	154	19	135
2023	104	14	90	2024	96	15	81
2024	67	11	56	2025	81	13	68
2025	51	8	43	2026	69	10	59
2026 or later	297	40	257	2027 or later	343	55	288
Total	782	110	672	Total	893	132	761

See note 24.2 "Financial Risk Management and Information on Derivatives" for further information on the accounting for liabilities from derivatives.

23. Other Liabilities

Other liabilities were comprised as follows:

Other liabilities

	Dec. 31, 2020		Dec. 31, 2021	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Other tax liabilities	63	63	59	59
Deferred income	13	13	18	18
Grants and subsidies received from governments	11	2	20	8
Liabilities to employees	25	21	38	34
Liabilities for social expenses	11	11	13	13
Accrued interest on liabilities	12	12	11	11
Contract liabilities	22	22	37	37
Refund liabilities	87	87	116	116
Miscellaneous liabilities	49	31	46	28
Total	293	262	358	324

The miscellaneous liabilities included €3 million (previous year: €3 million) in liabilities from derivatives.

See note 6 "Sales" for further information on contract liabilities.

24. Financial Instruments

24.1 Financial Instruments by Category

The following tables show the carrying amounts and fair values of the individual financial assets and liabilities based on IFRS 9:

Carrying amounts of financial instruments and their fair values as of December 31, 2021

	Measurement according to IFRS 9				Measurement according to IFRS 16	Fair value
	Carrying amount	Carried at amortized cost	Fair value through other comprehensive income	Fair value recognized in profit or loss		
	€ million	€ million	€ million	€ million	€ million	€ million
Financial assets						
Trade accounts receivable	2,343	2,343	–	–		2,343
Other financial assets	542					
Money market funds	65	–	–	65		65
Loans and bank deposits	402	393	–	9		402
Other investments	27		27	–		27
Receivables under lease agreements	8				8	19
Derivatives that do not qualify for hedge accounting	40			40		40
Other receivables ¹	30	22	–	8		30
Cash and cash equivalents	649	649	–	–		649
Financial liabilities						
Financial debt	2,541					
Bonds	1,492	1,492		–		1,568
Lease liabilities	761				761	
Liabilities to banks	275	275		–		280
Other financial liabilities	2	2		–		2
Derivatives that do not qualify for hedge accounting	11			11		11
Trade accounts payable	2,214	2,214		–		2,214
Other liabilities ²	172					
Derivatives that do not qualify for hedge accounting	3			3		3
Refund liabilities	116	116		–		116
Miscellaneous other liabilities	53	53		–		53

¹ The other receivables recognized in the consolidated statement of financial position also include nonfinancial assets totaling €480 million.

² The other liabilities recognized in the consolidated statement of financial position also include nonfinancial liabilities totaling €186 million.

Carrying amounts of financial instruments and their fair values as of December 31, 2020

	Measurement according to IFRS 9					Fair value
	Carrying amount	Carried at amortized cost	Fair value through other comprehensive income	Fair value recognized in profit or loss	Measurement according to IFRS 16	
	€ million	€ million	€ million	€ million	€ million	€ million
Financial assets						
Trade accounts receivable	1,593	1,593	–	–		1,593
Other financial assets	1,176					
Money market funds	771	–	–	771		771
Loans and bank deposits	365	360	–	5		365
Other investments	14		14	–		14
Receivables under lease agreements	8				8	21
Derivatives that do not qualify for hedge accounting	18			18		18
Other receivables ¹	31	25	–	6		31
Cash and cash equivalents	1,404	1,404	–	–		1,404
Financial liabilities						
Financial debt	2,899					
Bonds	1,990	1,990		–		2,107
Lease liabilities	672				672	
Liabilities to banks	227	227		–		234
Other financial liabilities	1	1		–		1
Derivatives that do not qualify for hedge accounting	9			9		9
Trade accounts payable	1,241	1,241		–		1,241
Other liabilities ²	150					
Derivatives that do not qualify for hedge accounting	3			3		3
Refund liabilities	87	87		–		87
Miscellaneous other liabilities	60	60		–		60

¹ The other receivables recognized in the consolidated statement of financial position also include nonfinancial assets totaling €329 million.

² The other liabilities recognized in the consolidated statement of financial position also include nonfinancial liabilities totaling €143 million.

The fair values of financial instruments are determined and reported in accordance with IFRS 13 (Fair Value Measurement) on the basis of the fair value hierarchy described below:

Level 1 covers fair values determined on the basis of unadjusted prices which exist in active markets.

Level 2 comprises fair values determined on the basis of parameters which are observable in an active market.

Level 3 applies to fair values determined using parameters whose input factors are not based on observable market data.

The following table shows the assignment of the financial instruments to the three-level fair value hierarchy:

Fair value hierarchy of financial instruments

	Fair value				Fair value			
	Dec. 31, 2020	Level 1	Level 2	Level 3	Dec. 31, 2021	Level 1	Level 2	Level 3
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial assets carried at fair value								
Money market funds	771	–	771	–	65	–	65	–
Loans and bank deposits	5	–	–	5	9	–	–	9
Other investments	14	5	–	9	27	4	–	23
Derivatives that do not qualify for hedge accounting	18	–	13	5	40	–	34	6
Other receivables	6	–	–	6	8	–	–	8
Financial assets not carried at fair value								
Receivables under lease agreements	21	–	–	21	19	–	–	19
Financial liabilities carried at fair value								
Derivatives that do not qualify for hedge accounting	12	–	9	3	14	–	11	3
Financial liabilities not carried at fair value								
Bonds	2,107	2,107	–	–	1,568	1,568	–	–
Liabilities to banks	234	–	234	–	280	–	280	–
Other financial liabilities	1	–	1	–	2	–	2	–

Reallocation between the different levels of the fair value hierarchy takes place at the end of the reporting period in which the change occurred. During the fiscal year, no transfers were made between the levels of the fair value hierarchy.

Because of the generally short maturities of cash and cash equivalents, loans and bank deposits, trade accounts receivable and payable, and other receivables and liabilities, their carrying amounts do not significantly differ from the fair values.

The fair value of the bonds issued by Covestro AG is based on quoted, unadjusted prices in active markets and therefore assigned to Level 1 of the fair value hierarchy. The fair value of some of the other investments is also based on quoted prices in active markets (Level 1).

The fair values stated for noncurrent financial assets and liabilities are the present values of the respective future cash inflows or outflows. These are determined by discounting the cash flows at a reporting-date interest rate that takes into account the term of the assets or liabilities and the creditworthiness of the counterparty. For this reason, these values are assigned to Level 2 of the fair value hierarchy.

The fair values of money market funds correspond to the quoted prices of the funds in accordance with Article 29 in conjunction with Article 33 of EU Regulation 2017/1131 on money market funds (Level 2).

The fair values of derivatives for which no publicly quoted market prices exist are determined using valuation techniques based on observable market data as of the reporting date (Level 2). Credit value adjustments and debt value adjustments are determined to allow for both the contracting party's credit risk and Covestro's own credit risk. The currency forward contracts are measured individually at their forward rates or forward prices as of the reporting date. These depend on spot rates or prices including time spreads.

Fair values measured using unobservable inputs are categorized within Level 3 of the fair value hierarchy. The fair values of noncurrent receivables under lease agreements are calculated on the basis of interest curves observable in the market. Additionally, a discount for cash flows that are very far in the future is applied as an unobservable factor.

Covestro works with and invests in start-ups under the auspices of the Covestro Venture Capital (COVeC) approach, which was newly developed in fiscal 2020. Investments associated with COVeC activities are recognized either as debt instruments at fair value through profit and loss or other financial investments at fair value directly in equity, depending on the contractual design. The fair value is calculated as the present value of the future cash flows estimated based on available performance indicators. The cash flows are discounted at the current interest rate for the appropriate term on the reporting date and reflecting the creditworthiness of the venture capital company. The main input factors are not based on observable market data (Level 3). The estimated fair value of the debt instruments classified in Level 3 would rise (fall) if the expected cash inflows were to be higher (lower) or if the risk-adjusted discount rate were to be lower (higher).

Other financial investments are recognized at fair value directly in equity because they are held for the long term for strategic reasons. The fair value of some of the other investments is based on quoted prices in active markets (Level 1). Where there are no quoted, unadjusted prices in an active market for identical or similar instruments, and there is no suitable valuation method where all major input factors are based on observable market data, the fair value of the other investments is determined using a market price-oriented valuation method where the main input factors are not based on observable market data (Level 3). The valuation of certain other investments is based on available performance indicators as well as on market valuation multipliers. The estimated fair value of the equity instruments categorized within Level 3 would rise (fall) if the multiple applied were to be greater (smaller).

Further, the fair values of embedded derivatives are determined on the basis of unobservable input factors (Level 3). They are separated from their respective host contracts, which are purchase agreements relating to the operational business. The embedded derivatives cause the cash flows from the contracts to vary with fluctuations in exchange rates, or regional and industry-specific price indices, for example. The internal measurement of embedded derivatives is mainly performed using the discounted cash flow method, which is based on unobservable inputs. These include prices or price indices derived from market data. The estimated fair value of the embedded derivative would rise (fall) if the expected payment flows were to be higher (lower) as a result of fluctuations in exchange rates or prices.

Other receivables include a contingent purchase price receivable from divestments. The fair value of the receivable is measured as the present value of the future cash inflows. The basis is the expected EBITDA of the business unit sold for fiscal year 2021. The cash flows are discounted at the current interest rate for the appropriate term on the reporting date and reflecting the creditworthiness of the buyer. The contingent purchase price receivable is assigned to Level 3 of the fair value hierarchy. The estimated fair value would rise (fall) if the expected cash inflows were to be higher (lower) or if the risk-adjusted discount rate were to be lower (higher).

The table below shows the changes in Level 3 financial instruments:

**Changes in the net amount of financial assets and liabilities
recognized at fair value based on unobservable inputs**

	2020	2021
	€ million	€ million
Net carrying amounts, Jan. 1	21	22
Gains (losses) recognized in profit or loss	(5)	2
of which related to assets/liabilities recognized in the statement of financial position	(5)	2
Gains (losses) recognized outside profit or loss	1	14
Additions of assets (liabilities)	5	5
Net carrying amounts, Dec. 31	22	43

The gains and losses from Level 3 financial assets and liabilities are reported as follows:

- gains and losses from embedded derivatives recognized in profit or loss are reported in other operating expenses or income;
- gains and losses from the contingent purchase price receivable from divestments and debt instruments recognized in profit or loss are reported in other financial result;
- gains and losses from other financial investments are reported in other comprehensive income from equity instruments.

Other financial investments amount to €27 million (previous year: €14 million), of which €18 million (previous year: €4 million) is attributable to Hydrogenious LOHC Technologies GmbH, Erlangen (Germany), and €4 million (previous year: €4 million) to Hi-Bis GmbH, Bitterfeld-Wolfen (Germany). In fiscal 2021, the Covestro Group received dividends of €2 million (previous year: €1 million) from other financial investments, all of which was attributable to Hi-Bis GmbH.

The following table shows income, expenses, gains and losses from financial instruments assigned to the measurement categories in accordance with IFRS 9:

Net result by measurement category in accordance with IFRS 9

	2020	2021
	€ million	€ million
Financial assets carried at amortized cost	(56)	15
of which net interest	1	3
Equity instruments measured at fair value through other comprehensive income	1	2
of which net interest	–	–
Financial instruments measured at fair value through profit or loss	23	33
of which net interest	(3)	12
Financial liabilities carried at amortized cost	(20)	(87)
of which net interest	(46)	(53)

24.2 Financial Risk Management and Information on Derivatives

Capital Management

The main purpose of financial management is to ensure solvency at all times, continuously optimize capital costs and reduce the risks of financing measures. Financial management for the Covestro Group is performed centrally by Covestro AG.

Covestro AG currently holds a Baa2 investment-grade rating with a stable outlook from the rating agency Moody's Investors Service, London (United Kingdom). Covestro uses the debt ratios published by prominent rating agencies in managing its capital and pursues a conservative debt policy along with a balanced financing portfolio. This is based for the most part on bonds, syndicated credit facilities, and bilateral loan agreements.

Credit Risk

Credit risk is the risk of a loss for the Covestro Group when a counterparty is unable to meet its payment obligations arising from a financial instrument as contractually stipulated. The payment obligations to the Covestro Group primarily comprise trade accounts receivable, debt instruments, other financial assets and contract assets.

The carrying amount of the financial assets and the contract assets represents the maximum credit risk exposure.

The impairment loss for financial assets and contract assets recognized during the year resulted almost exclusively from impairment losses on trade accounts receivable. Net reversals of impairment losses amounted to €6 million (previous year: net impairment losses of €3 million) in the reporting year.

Trade Accounts Receivable and Contract Assets

The credit risk the Covestro Group is exposed to through its trade accounts receivable and contract assets depends largely on the creditworthiness of the customer. In order to manage this risk, the Covestro Group's Credit Management implemented a process that uses internal and external data to assess each customer in terms of its creditworthiness. Quantitative and qualitative data are evaluated during the assessment process. The assessment reflects financial data, ratings, payment history, and data on the customer's environment. The customer is allocated to one of five risk categories on the basis of the final assessment. The categories range from A to E, with risk category A representing the most creditworthy companies and risk category E the least.

Meaningful data is used to determine an expected loss rate for each risk category. Data such as default probabilities from rating agencies and credit insurance firms, historical impairment losses recognized by the Covestro Group, and the empirical data from Credit Management are used to determine the expected loss rates. In addition, forward-looking information such as the country rating is also used in determining the expected loss rates. Every year the expected and actual losses are compared (backtesting).

The following table presents the gross carrying amounts and the expected losses for trade receivables and contract assets:

Expected credit loss by category as of December 31

	Cluster					
2021	A	B	C	D	E	Total
Expected loss rate (%)	0.01	0.03	0.12	0.70	6.00	
Gross amount (€ million)	665	724	823	167	30	2,409
Expected loss (€ million)	–	–	(2)	(1)	(2)	(5)
2020	A	B	C	D	E	Total
Expected loss rate (%)	0.03	0.14	0.51	1.79	9.37	
Gross amount (€ million)	337	535	582	175	18	1,647
Expected loss (€ million)	–	(1)	(5)	(3)	(2)	(11)

The accumulated impairment losses amounted to €25 million (previous year: €24 million) for those customers that the Covestro Group considers credit impaired on the basis of this assessment. The corresponding gross carrying amount amounted to €25 million (previous year: €24 million). Indicators that trade accounts receivable and contract assets are at risk of credit impairment include significant financial difficulties of the customer and a breach of contract such as default or delinquency. Determining that a customer is credit impaired does not occur automatically when payments are overdue for more than 90 days but is instead always based on the individual assessment conducted by Credit Management.

Total impairment losses for trade accounts receivable and contract assets changed as follows:

Reconciliation of expected credit loss

	2020	2021
	€ million	€ million
Valuation allowances, Jan. 1	(36)	(35)
Net remeasurement impairment loss	(3)	6
Write-offs	3	1
Foreign exchange differences	1	(1)
Valuation allowances, Dec. 31	(35)	(29)

The Covestro Group limits the credit risk exposure from trade accounts receivable by stipulating the shortest payment terms possible. In addition, the Covestro Group has a widely diversified customer portfolio. In order to avoid concentration of risk, customer limits are set, regularly monitored and exceeded only in agreement with Credit Management.

Receivables of €34 million (previous year: €27 million) are secured mainly by letters of credit.

Debt Instruments

The Covestro Group generally pursues a conservative investment policy based on a strategy of maintaining liquidity and safeguarding value. Consequently, the investments are limited to counterparties with investment grade ratings, simple debt instruments and short-term investment horizons. Credit risks, particularly concentration of risk with individual counterparties, are managed by means of a Group-wide limit system in conjunction with ongoing monitoring. Covestro also acts as a start-up investor as part of the Covestro Venture Capital (COVeC) approach newly developed in fiscal 2020. The resulting debt instruments have a long-term investment horizon and are carried at fair value through profit or loss.

The general approach for calculating and recording impairment losses in accordance with IFRS 9 applies to all debt instruments, loan commitments and financial guarantees recognized at amortized cost or at their fair values directly in equity. Covestro uses a general, three-stage approach for measuring the risk provision for expected credit losses as follows:

- Stage 1: The risk provision is calculated as the 12-month expected credit loss, whereby the default probability is derived from historical data published by prominent rating agencies. The Covestro Group assumes that investment grade ratings imply a low level of credit risk.
- Stage 2: The amount of the risk provision is the expected credit loss over the lifetime of the debt instrument if the credit risk has increased significantly since its initial recognition. Changes in credit risk are assessed using the actual payment history and external information. Whenever available, Covestro uses credit default swap prices and other forward-looking information such as ratings outlooks in addition to external ratings.
- Stage 3: If Covestro determines that the collectability of a debt instrument has deteriorated, it is reclassified to stage 3. This is the case, for instance, when a counterparty has obtained insolvency status; when there is sufficient information available to show that the counterparty has applied for insolvency proceedings; or when debt instruments are more than 90 days overdue.

No reclassification between the stages of the general impairment approach took place, and the Covestro Group held no collateral to secure its debt instruments either in the reporting period or in the reference period.

Because of the low credit risk profile, the Covestro Group is not exposed to significant credit risk from debt instruments. For fiscal 2021 and for the previous year, the risk provision calculated using the general approach is immaterial both overall and for the individual stages.

Currency Risks

Currency opportunities and risks for the Covestro Group result from changes in exchange rates and the related changes in the value of financial instruments (including receivables and payables) and of future payment receipts and disbursements in foreign currencies. Material receivables and payables in liquid currencies from operating and financial activities are generally fully hedged through forward exchange contracts. A value-at-risk approach is used to manage foreign currency exposures arising from planned receivables and liabilities. As in the previous year, the planned foreign currency exposure was not hedged. They will be hedged using forward contracts if the foreign currency risk increases significantly. The extent of the currency risk is represented below by a sensitivity analysis.

The currency risk shown in the sensitivity analysis results from the following:

- The unsecured portion of receivables and payables in nonfunctional currencies,
- Unsecured bank deposits and liabilities to banks in nonfunctional currencies,
- Currency risks from embedded derivatives.

Sensitivities were determined based on a hypothetical scenario in which the euro depreciates by 10% against all other currencies compared with the year-end exchange rates. Under this scenario, the estimated hypothetical gains recognized in profit or loss as of December 31, 2021, would have totaled €5.9 million (previous year: €7.1 million). The table below shows the distribution of these effects among the individual currencies:

Sensitivity by currency

2020		2021	
Currency	€ million	Currency	€ million
USD	2.7	USD	2.8
CNY	3.5	CNY	1.4
AUD	0.2	AUD	0.6
Other	0.7	Other	1.1
Total	7.1	Total	5.9

Liquidity Risk

Liquidity risk is the risk of not being able to meet existing or future payment obligations. The liquidity status of all material Group companies is continuously planned and monitored. Liquidity is secured by cash pooling agreements as well as internal and external financing. The syndicated, revolving credit facility amounting to €2.5 billion and running until March 2026 offers additional financial flexibility.

The liquidity risks to which the Covestro Group was exposed from its financial instruments can be divided into obligations for interest and repayment installments on financial liabilities, payment obligations arising from derivatives and loan commitments. The following tables show the maturity structure of the nondiscounted contractually agreed payments arising from these line items:

Maturity analysis of financial liabilities and derivative financial instruments

	Carrying amount	Contractual cash flows					
	Dec. 31, 2021	2022	2023	2024	2025	2026	after 2026
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial liabilities							
Bonds	1,492	20	20	520	11	511	528
Liabilities to banks	275	51	1	1	226	–	–
Lease liabilities	761	150	154	96	81	69	343
Other financial liabilities	2	1	–	–	–	–	1
Trade accounts payable	2,214	2,214	–	–	–	–	–
Other liabilities							
Accrued interest on liabilities	11	11	–	–	–	–	–
Refund liabilities	116	116	–	–	–	–	–
Miscellaneous other liabilities	42	26	4	–	–	–	12
Liabilities from derivatives							
Derivatives that do not qualify for hedge accounting	14	13	1	–	–	–	–
Receivables from derivatives							
Derivatives that do not qualify for hedge accounting	40	37	3	–	–	–	–
Loan commitments	–	219	–	–	–	–	–

	Carrying amount	Contractual cash flows					
	Dec. 31, 2020	2021	2022	2023	2024	2025	after 2025
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Financial liabilities							
Bonds	1,990	523	20	20	520	11	1,039
Liabilities to banks	227	3	1	1	1	226	–
Lease liabilities	672	131	132	104	67	51	297
Other financial liabilities	1	–	–	–	–	–	1
Trade accounts payable	1,241	1,241	–	–	–	–	–
Other liabilities							
Accrued interest on liabilities	12	12	–	–	–	–	–
Refund liabilities	87	87	–	–	–	–	–
Miscellaneous other liabilities	48	32	2	2	–	–	12
Liabilities from derivatives							
Derivatives that do not qualify for hedge accounting	12	10	1	1	–	–	–
Receivables from derivatives							
Derivatives that do not qualify for hedge accounting	18	15	2	1	–	–	–
Loan commitments	–	219	–	–	–	–	–

In addition to the primary financial liabilities and derivative financial instruments, there was an obligation under certain conditions to make a loan totaling €219 million (previous year: €219 million) to the effective initial fund of Bayer-Pensionskasse VVaG, Leverkusen (Germany), and Rheinische Pensionskasse VVaG, Leverkusen (Germany), which may result in payments by Covestro AG in subsequent years. This is reflected in the loan commitments shown in the table above.

 See note 25 "Contingent Liabilities and Other Financial Commitments."

In this analysis, foreign currencies were translated at the closing rates. Derivative financial instruments are reported as net amounts.

Interest Rate Risks

Interest rate opportunities and risks for the Covestro Group result from changes in capital market interest rates, which could lead to changes in the fair value of fixed-rate financial instruments and in interest payments in the case of floating-rate instruments. To minimize adverse effects, interest rate risk is managed centrally based on an optimized debt maturity structure.

A sensitivity analysis based on our net floating-rate receivables and payables position at the end of fiscal 2021, taking into account the interest rates relevant for our receivables and payables in all principal currencies, produced the following result: A hypothetical increase in the interest rates by 100 basis points or one percentage point would (assuming currency exchange rates remain constant) result in an increase in interest expense of €3.6 million (previous year: €4.8 million).

Raw Material Price Risks

The Covestro Group requires significant quantities of different forms of energy and petrochemical feedstocks for its production processes. Procurement prices for energy and raw materials may fluctuate significantly. Important raw materials are procured on the basis of long-term supply agreements and active supplier management to minimize substantial price fluctuations. During the past fiscal year, derivative financial instruments were not used to hedge raw material price risks.

Derivatives

As of the reporting date, the nominal volume of the forward exchange contracts used to hedge currency risk amounted to €2,822 million (previous year: €1,722 million). Other market risks are not hedged as of the reporting date.

Covestro has entered into master netting or similar agreements for derivative financial instruments. These take effect in particular in the event of the insolvency of one of the contractual partners involved. The derivative financial instruments covered by netting agreements from the perspective of the Covestro Group are presented in the table below:

Disclosures for netting of financial assets and liabilities as of December 31

	Gross amounts of financial assets / liabilities	Net amounts of financial assets / liabilities presented in the balance sheet	Balance sheet amounts eligible for netting covered by netting agreements	Net amounts after possible netting
	€ million	€ million	€ million	€ million
2021				
Receivables from derivatives	34	34	4	30
Liabilities from derivatives	11	11	4	7
2020				
Receivables from derivatives	13	13	2	11
Liabilities from derivatives	9	9	2	7

25. Contingent Liabilities and Other Financial Commitments

Contingent Liabilities

The following table presents warranty contracts as well as other contingent liabilities existing as of the reporting date:

Contingent liabilities

	Dec. 31, 2020	Dec. 31, 2021
	€ million	€ million
Warranty contracts	3	4
Other contingent liabilities	3	5
Total	6	9

Other Financial Commitments

The other financial commitments were as follows:

Other financial commitments

	Dec. 31, 2020	Dec. 31, 2021
	€ million	€ million
Orders already placed for started or planned investment projects	236	335
Loan commitments to pension funds	219	219
Purchase agreement in regard to the acquisition of RFM from Koninklijke DSM N.V. ¹	1,629	–
Total	2,084	554

¹ For additional information, see note 5.2 "Acquisitions and divestitures."

Some of the pension obligations allocable to the Covestro Group are funded through pension institutions used jointly with other companies (especially Bayer AG). In such cases, it can generally be contractually ensured that Covestro participates accordingly in funding measures that serve to guarantee adequate funding status and/or adequate solvency capital of these pension institutions for the long term. To this end, Covestro AG agreed to grant interest-bearing loans of up to €208 million for Bayer-Pensionskasse VVaG, Leverkusen (Germany), and up to €11 million for Rheinische Pensionskasse VVaG, Leverkusen (Germany), for the effective initial fund to be drawn down as required.

26. Legal Risks

As a company with international operations, the Covestro Group is exposed to numerous legal risks, particularly in the areas of product liability, competition and antitrust law, patent disputes, tax law, environmental law, and compliance issues such as corruption and export control. The outcome of any current or future proceedings cannot be predicted. It is therefore possible that legal judgments or regulatory decisions or future settlements could give rise to expenses that are not covered, or not fully covered, by insurers' compensation payments and could significantly affect the earnings of the Covestro Group.

Legal proceedings currently considered to involve material risks are outlined below. The legal proceedings referred to do not necessarily represent an exhaustive list:

Carbon Monoxide Pipeline from Dormagen to Krefeld-Uerdingen

The carbon monoxide pipeline is intended to connect the chemical production sites at Dormagen and Krefeld-Uerdingen and complement the network already existing between Dormagen and Leverkusen. The aim is to ensure a safe and reliable supply of carbon monoxide to and across all sites. Although the pipeline was almost completed by the end of year 2009, it cannot currently be put into operation because of ongoing court proceedings. Following confirmation by the Düsseldorf Administrative Court in the year 2011 that there were no grounds to challenge the material aspects of the planning permission decision, in particular the safety of the materials used and the legal conformity of the relevant pipeline act (Rohrleitungsgesetz), the plaintiffs and the regional government against which legal proceedings had been instituted lodged appeals before the Higher Administrative Court for the state of North Rhine-Westphalia in Münster (Higher Administrative Court). In the year 2014, the Higher Administrative Court raised no objections in principle to the safety and routing of the pipeline, but questioned the constitutionality of the pipeline act which forms the legal basis for the project. On December 21, 2016, the German Federal Constitutional Court dismissed the corresponding constitutionality question referred to it by the Higher Administrative Court as inadmissible and confirmed the legal opinion of the Covestro Group. Subsequently, the Higher Administrative Court again considered the facts of the appeal and, in a decision handed down on August 31, 2020, dismissed the actions against the planning permission decision. In addition, the Higher Administrative Court rejected an appeal against its ruling. The plaintiffs then filed a complaint against the denial of leave to appeal with the Federal Administrative Court in Leipzig in February 2021. The German Federal Constitutional Court dismissed the denial of leave to appeal on December 14, 2021. The judgment by the Higher Administrative Court is therefore final. A number of actions against the planning permission decision are pending at Düsseldorf Administrative Court which could proceed only on the basis of the final judgment by the Higher Administrative Court.

Civil Class Action Lawsuits over Diisocyanates (in the United States)

On July 9, 2018, Covestro LLC, Pittsburgh, Pennsylvania (United States) – as one of numerous other defendants – was served the first of now 12 class action lawsuits initiated by various U.S. diphenylmethane diisocyanate (MDI) and toluene diisocyanate (TDI) customers. The plaintiffs allege that the defendants have violated various provisions of the Sherman Antitrust Act since January 1, 2015, by acting in coordination to limit production capacities of MDI and TDI and, at the same time, raising prices for these products in the market. On October 3, 2018, the Judicial Panel on Multidistrict Litigation ruled that all class action lawsuits in pretrial proceedings would be centralized in the District Court for the Western District of Pennsylvania. Based in essence on the same assertions and the violations of federal consumer protection and antitrust laws allegedly resulting from them, the attorney general of the state of Mississippi filed a separate civil complaint against Covestro LLC and numerous other defendants on behalf of the state and its citizens in September 2019. In November 2020, the parties suspended these lawsuits without prejudice for a period of two years. Covestro currently considers these claims without merit and will therefore use all legal means to defend itself against these allegations – also in light of the official conclusion in November 2018 of the six-month investigation by the U.S. Department of Justice into possible anticompetitive practices in relation to MDI. The case is currently in the discovery phase.

Other Information

27. Notes to the Statement of Cash Flows

27.1 Cash Flows from Operating Activities

The net cash of €2,193 million (previous year: €1,234 million) provided by operating activities comprises the cash surplus from operating activities and reflects the changes in working capital and other noncash transactions.

Cash flows from operating activities were €959 million (77.7%) higher than in the prior year mainly due to an increase in EBIT by €1,566 million, which stood in contrast to €258 million higher cash outflows from working capital and a €391 million increase in income tax payments.

In November 2021, money market funds were transferred to Metzler Trust e.V., Frankfurt am Main (Germany), in the amount of €500 million. The transfer was a noncash transaction and therefore did not result in a cash outflow from operating activities.

27.2 Cash Flows from Investing Activities

Net cash outflow for investing activities in fiscal 2021 amounted to €1,995 million (previous year: €1,769 million).

This was primarily attributable to cash outflows for additions to property, plant, equipment, and intangible assets of €764 million (previous year: €704 million) and cash outflows for acquisitions less acquired cash of €1,469 million for the acquisition of the Resins & Functional Materials (RFM) business from Koninklijke DSM N.V., Heerlen (Netherlands). In addition, there were cash inflows from other current financial assets of €188 million (previous year: cash outflows of €1,089 million).

The transfer of money market funds amounting to €500 million to Metzler Trust e.V. was a noncash transaction and therefore did not result in a cash inflow from investing activities.

27.3 Cash Flows from Financing Activities

The net cash outflow for financing activities amounted to €965 million in fiscal 2021 (previous year: net cash inflow from financing activities of €1,204 million). Net credit repaid amounted to €624 million (previous year: net credit assumed of €1,056 million). Short-term debt assumed and repaid was netted.

In April 2021, dividend totaling €251 million was paid to Covestro AG shareholders (previous year: €219 million).

The interest paid totaling €81 million (previous year: €79 million) reflected in cash flows from financing activities relates mainly to lease liabilities of €26 million (previous year: €28 million), bonds of €23 million (previous year: €14 million), and forward exchange contracts used to hedge foreign currency risks of €20 million (previous year: €27 million).

Reconciliation of financial debt in 2021

	Changes cashflow not realized							Carrying amounts Dec. 31, 2021 € million
	Carrying amounts Dec. 31, 2020 € million	Changes cashflow realized € million	Changes due to exchange rate movements	Changes in measurement	Acquisitions (IFRS 3)	Lease contracts	Other changes	
			€ million	€ million	€ million	€ million	€ million	
Bonds	1,990	(500)	–	2	–	–	–	1,492
Liabilities to banks	227	19	–	–	29	–	–	275
Lease liabilities	672	(143)	31	–	4	197	–	761
Other financial liabilities	1	–	–	–	–	–	1	2
Financial debt¹	2,890	(624)	31	2	33	197	1	2,530

¹ Not including forward exchange contracts used to hedge currency risks.

Reconciliation of financial debt in 2020

	Carrying amounts Dec. 31, 2019	Changes cashflow realized	Changes cashflow not realized				Carrying amounts Dec. 31, 2020
			Changes due to exchange rate movements	Changes in measurement	Lease contracts	Other changes	
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Bonds	997	991	–	2		–	1,990
Liabilities to banks	10	218	(1)	–		–	227
Lease liabilities	735	(152)	(35)	–	127	(3)	672
Other financial liabilities	–	(1)	–	–		2	1
Financial debt¹	1,742	1,056	(36)	2	127	(1)	2,890

¹ Not including forward exchange contracts used to hedge currency risks.

28. Related Companies and Persons

28.1 Related Companies

Related entities as defined in IAS 24 (Related Party Disclosures) are those legal entities that are able to exert at least significant influence on Covestro AG and its subsidiaries or over which Covestro AG or its subsidiaries exercise control or have at least a significant influence, or are controlled by a related person or close family member of such a person. They include nonconsolidated subsidiaries, joint ventures, associated companies and other related companies and persons.

Receivables from and liabilities to related parties

	Dec. 31, 2020		Dec. 31, 2021	
	Receivables	Liabilities	Receivables	Liabilities
	€ million	€ million	€ million	€ million
Nonconsolidated subsidiaries and associates	3	8	–	6
Associates accounted for using the equity method	6	–	19	–

Sales and purchases of goods and services to/from related parties

	2020		2021	
	Sales of goods and services	Purchases of goods and services	Sales of goods and services	Purchases of goods and services
	€ million	€ million	€ million	€ million
Nonconsolidated subsidiaries and associates	33	46	48	67
Associates accounted for using the equity method	14	493	31	835

The goods and services provided by associated companies mainly result from the ongoing operating business with PO JV, LP, Houston, Texas (United States). Covestro benefits from fixed long-term supply quotas/volumes of propylene oxide (PO) from this company's production.

 See note 15 "Investments Accounted for Using the Equity Method."

Receivables from and payables to related parties mainly comprise leasing and financing matters, trade in goods and services, and other transactions. No impairment losses were recorded on receivables from related parties either in the reporting period or in the reference period.

The services purchased from other related companies and persons comprise consulting services for Supervisory Board and Works Council elections priced at arm's length. In the 2021 reporting year, services amounting to €175 thousand (previous year: €0 thousand) were purchased, and liabilities totaled €23 thousand (previous year: €0 thousand) as of December 31, 2021.

28.2 Related Persons

Related persons as defined in IAS 24 are those natural persons who, on account of their function in the Covestro Group, are responsible for Covestro's global business operations. These persons include the corporate officers of Covestro AG, who are the members of the Board of Management and Supervisory Board.

Compensation of the Corporate Officers

The compensation for corporate officers of Covestro AG in fiscal 2021 amounted to €17,023 thousand (previous year: €9,163 thousand), including the compensation of the Supervisory Board amounting to €1,732 thousand (previous year: €1,679 thousand).

This compensation is shown below:

Compensation of the corporate officers according to IFRSs

	2020	2021
	€ thousand	€ thousand
Total short-term compensation	5,277	12,661
Total share-based compensation (long-term incentive)	2,443	2,188
Service cost for pension entitlements earned in the respective year	1,443	2,174
Aggregate compensation (IFRSs)	9,163	17,023

Aggregate compensation of the members of the Board of Management (according to the German Commercial Code (HGB)) amounted to €15,102 thousand (previous year: €6,947 thousand).

Since 2016, the members of the Board of Management have been entitled to participate in the Prisma long-term share-based compensation program, as long as they are employed by the Covestro Group, and acquire for their own account and hold an individually defined number of Covestro shares as specified by the guidelines. The fair value of the long-term share-based compensation (Prisma) granted to the Board of Management in fiscal 2021 was €4,176 thousand (previous year: €3,349 thousand).

Provisions of €12,808 thousand (previous year: €3,883 thousand) were recognized for the short-term and long-term variable cash compensation for the members of the Board of Management serving during the 2021 reporting period. At the end of the year, the present value of the defined benefit pension obligations for the current members of the Board of Management was €12,594 thousand (previous year: €12,095 thousand). Provisions of €202 thousand (previous year: €1,015 thousand) were recognized for long-term share-based cash compensation for former members of the Board of Management. The present value of the defined benefit pension obligations for former members of the Board of Management was €7,696 thousand (previous year: €8,270 thousand).

The compensation of the Supervisory Board is exclusively non-performance-related. In addition to their compensation as members of the Supervisory Board, those employee representatives who are employees of Covestro Group companies receive compensation unrelated to their service on the Supervisory Board. The total amount of such compensation was €667 thousand (previous year: €652 thousand). Pension obligations for employee representatives on the Supervisory Board amounted to €3,698 thousand (previous year: €3,798 thousand).

There were no advances or loans to members of the Board of Management or the Supervisory Board outstanding in fiscal 2021 or the previous year.

29. Auditor's Fees

Since fiscal 2018 KPMG AG Wirtschaftsprüfungsgesellschaft, Düsseldorf (Germany) (KPMG AG), has been the elected statutory auditor of Covestro AG and Covestro Group. Dr. Markus Zeimes has been the auditor primarily responsible for carrying out the audit of the consolidated financial statements since April 13, 2018. Ms. Franziska Schenk and Dr. Markus Zeimes were responsible for carrying out the 2021 audit of the consolidated financial statements. Dr. Markus Zeimes first signed the Independent Auditor's Report on December 31, 2018.

The following fees were recognized as expenses the given fiscal year for the services provided by KPMG AG:

Auditor's fees

	2020	2021
	€ million	€ million
Audit services	2.3	3.8
Other attestation services	0.2	0.2
Tax services	0.1	0.2
Other services	0.1	0.2
Total	2.7	4.4

The fees for audit services for fiscal 2021 mainly comprise those for the statutory audit of the consolidated financial statements of the Covestro Group, the review of the Covestro Group's interim report for the period ended June 30, 2021, and the audit of the financial statements of Covestro AG and its subsidiaries in Germany, including audits relating to the German Energy Industry Act (EnWG) and similar standards. The increase in fees for audit services over the previous year is mainly due to audit services performed in Germany and elsewhere for the acquisition of the Resins & Functional Materials (RFM) business from Koninklijke DSM N.V., Heerlen (Netherlands), and audit services in connection with the reorganization of the Group as part of the LEAP transformation project.

The fees for other attestation services in fiscal 2021 particularly contain the assurance of sustainability information and special audits concerning energy related topics. Tax services mainly include a slight year-over-year increase in the scope of consultancy services for the preparation of tax returns and matters related to VAT. Other services essentially comprise fees for IT security audits, which in fiscal 2021 additionally included cloud and similar environments as well as analyses relating to sustainability reporting.

30. Events after the End of the Reporting Period

No events have occurred since January 1, 2022, that have a material impact on the net assets, financial position and results of operations of the Covestro Group.

Leverkusen, February 18, 2022
Covestro AG
The Board of Management