Consolidated Financial Statements

» In short «

With an equity ratio of

44.4 %

the Group has a solid and sustainable financing structure and healthy balance sheet ratios.

5

Consolidated Statement of Comprehensive Income

Consolidated Statement of Income

in thousand euros	Note No.	1/1–31/12/2021	1/1–31/12/2020[1]
Continuing operations			
Revenue	4.1	750,717	615,466
Cost of Sales	4.2	493,814	390,718
Gross profit		**256,903**	**224,749**
Research and development expenses	4.3	38,886	39,420
Selling expenses	4.4	89,693	77,096
General administrative expenses	4.5	53,462	53,854
Impairment gains and losses	4.7	−1,151	4,090
Other operating income	4.8	50,747	16,504
Other operating expenses	4.9	16,309	27,574
EBIT		**108,148**	**47,397**
Profit or loss from investments	4.10	592	1,640
Financial income	4.11	4,972	3,742
Financial expenses	4.11	11,164	10,521
Financial result		**−5,600**	**−5,139**
Earnings before tax from continuing operations		**102,548**	**42,258**
Income taxes	4.12	−9,689	−8,223
Earnings after tax from continuing operations		**92,859**	**34,035**
Discontinued operation			
Earnings after tax from discontinued operation	4.13	**−8,520**	**8,696**
Group			
Earnings after tax		**84,339**	**42,731**
Results from non-controlling interests	4.14	2,341	963
Earnings attributable to shareholders	4.15	81,998	41,769
Earnings per share in euros (undiluted = diluted)	4.15	**1.43**	**0.73**
Earnings per share from continuing operations in euros (undiluted = diluted)		**1.58**	**0.58**

[1] Adjustment of prior year due to discontinued operation VINCORION

Consolidated Comprehensive Income

in thousand euros	Note No.	1/1–31/12/2021	1/1–31/12/2020
Earnings after tax		**84,339**	**42,731**
Items that will never be reclassified to profit or loss	5.16	4,974	−2,620
Actuarial gains/losses arising from the valuation of pensions and similar obligations	5.18	6,986	−2,096
Equity instruments measured at fair value through other comprehensive income		17	−1,375
Income taxes		−2,029	851
Items that are or may be reclassified to profit or loss	5.16	17,998	−7,207
Cash flow hedges	8.2	−2,253	3,987
Foreign currency exchange differences	2.3	21,014	−11,328
Income taxes		−763	134
Total other comprehensive income		**22,972**	**−9,827**
Total comprehensive income		**107,311**	**32,904**
Thereof attributable to:			
Non-controlling interests		2,965	889
Shareholders		104,346	32,015

Consolidated Statement of Financial Position

Assets in thousand euros	Note no.	31/12/2021	31/12/2020
Non-current assets		**1,110,770**	**848,943**
Intangible assets	5.1	753,247	487,075
Property, plant and equipment	5.2/5.4	266,656	263,499
Investment property	5.3	3,638	4,175
Investments accounted for using the equity method	5.5	14,328	13,410
Financial investments	5.6	2,987	2,926
Other non-current assets	5.7	6,555	3,276
Deferred tax assets	4.12	63,360	74,583
Current assets		**646,271**	**489,900**
Inventories	5.9	200,213	191,406
Current trade receivables	5.10	120,475	138,010
Contract assets	5.11	81,414	74,735
Other current financial assets	5.12	19,582	6,492
Other current non-financial assets	5.13	11,439	10,958
Current financial investments	5.14	1,555	4,894
Cash and cash equivalents	5.15	54,817	63,405
Assets held for sale	4.13	156,777	0
Total assets		**1,757,041**	**1,338,843**

Equity and liabilities in thousand euros	Note no.	31/12/2021	31/12/2020
Equity	5.16	**780,659**	**689,391**
Share capital		148,819	148,819
Capital reserve		194,286	194,286
Other reserves		424,705	334,668
Non-controlling interests	5.17	12,849	11,618
Non-current liabilities		**503,102**	**233,029**
Pension provisions	5.18	9,379	35,178
Other non-current provisions	5.20	17,886	17,039
Non-current financial debt	5.22	448,746	138,410
Other non-current liabilities	5.23	2,350	29,545
Deferred tax liabilities	4.12	24,741	12,858
Current liabilities		**473,279**	**416,423**
Tax provisions	5.19	6,949	2,624
Other current provisions	5.20	39,907	52,482
Current financial debt	5.22	148,993	130,871
Current trade payables	5.24	94,221	89,747
Contract liabilities	5.25	47,323	46,274
Other current financial liabilities	5.26	22,023	75,327
Other current non-financial liabilities	5.27	20,249	19,098
Liabilities related to assets held for sale	4.13	93,613	0
Total equity and liabilities		**1,757,041**	**1,338,843**

Consolidated Statement of Cash Flows

in thousand euros	1/1–31/12/2021	1/1–31/12/2020
Earnings before tax from continuing operations	102,548	42,258
Earnings before tax from discontinued operation	−8,230	10,977
Earnings before tax	**94,318**	**53,235**
Financial income and expenses	6,997	7,716
Non-operating result from investments	−628	0
Depreciation and amortization	54,179	50,879
Impairment losses and reversals of impairment losses from non-current assets [1]	22,357	1,459
Profit/loss from disposals of non-current assets, subsidiaries and other business units	−3,858	−895
Profit/loss from fair value adjustment of conditional purchase price components	−30,509	−476
Other non-cash income/expenses	−2,158	−175
Change in provisions	1,638	−4,785
Change in working capital	−35,786	−3,736
Change in other assets and liabilities	1,720	−934
Cash flows from operating activities before income tax payments	**108,271**	**102,288**
Income tax payments	−10,237	−12,540
Cash flows from operating activities	**98,034**	**89,748**
Capital expenditure for intangible assets	−15,934	−16,811
Proceeds from sale of property, plant and equipment	686	3,312
Capital expenditure for property, plant and equipment	−30,229	−26,489
Proceeds from the sale of subsidiaries and other business units less cash sold	7,586	0
Acquisition of consolidated entities less acquired cash	−379,963	−220,382
Proceeds from sale of financial assets within the framework of short-term disposition	197	89,900
Capital expenditure for financial assets within the framework of short-term disposition	−1,564	−20,000
Proceeds from other financial investments	6,036	626
Capital expenditure for other financial investments	−619	−405
Interest received and other income	184	1,805
Cash flows from investing activities	**−413,621**	**−188,443**
Dividend to shareholders of the parent company	−14,310	−7,441
Dividend to non-controlling interests	−1,749	−985
Acquisition of non-controlling interests	0	−1,711
Proceeds from additions of financial liabilities	548,559	177,686
Repayments of loans	−208,088	−86,073
Payments for leases	−13,732	−12,259
Change in group financing	945	−537
Interest paid and other expenses	−7,420	−4,964
Cash flows from financing activities	**304,205**	**63,716**
Cash-effective change in cash and cash equivalents	**−11,383**	**−34,980**
Less cash and cash equivalents from discontinued operations	−46	0
Change in cash and cash equivalents from foreign currency effects	2,871	−737
Changes in cash and cash equivalents from first-time consolidation and valuation	−30	97
Cash and cash equivalents at the beginning of the period	63,405	99,025
Cash and cash equivalents at the end of the period	**54,817**	**63,405**

[1] Including impairment loss from remeasurement at fair value less costs to sell in accordance with IFRS 5

Statement of Changes in Equity

in thousand euros	Note no.	Share capital	Capital reserve	Retained earnings	Equity instruments measured through other comprehensive income
Balance at 1/1/2020		**148,819**	**194,286**	**326,456**	**882**
Net profit for the period	4.14/4.15			41,769	
Other comprehensive income after tax	2.3/5.16/5.18/8.2				−965
Total comprehensive income				**41,769**	**−965**
Changes in the scope of consolidation	2.1/2.4				
Acquisition of non-controlling interests				−1,565	
Transactions with owners (dividend)				−7,441	
Other adjustments				−23	
Balance at 31/12/2020		**148,819**	**194,286**	**359,196**	**−83**
Balance at 1/1/2021		**148,819**	**194,286**	**359,196**	**−83**
Net profit for the period	4.14/4.15			81,998	
Other comprehensive income after tax	2.3/5.16/5.18/8.2				−3
Total comprehensive income				**81,998**	**−3**
Transactions with owners (dividend)				−14,310	
Transfer of actuarial effects to cumulative gains				−257	
Balance at 31/12/2021		**148,819**	**194,286**	**426,627**	**−86**

Cash flow hedges	Cumulative exchange differences	Actuarial effects	Equity attributable to shareholders of JENOPTIK AG	Non-controlling interests	Total	
−1,890	**8,000**	**−21,765**	**654,788**	**656**	**655,444**	**Balance at 1/1/2020**
			41,769	963	42,731	Net profit for the period
2,787	−9,918	−1,658	−9,754	−73	−9,827	Other comprehensive income after tax
2,787	**−9,918**	**−1,658**	**32,015**	**889**	**32,904**	**Total comprehensive income**
				10,218	10,218	Changes in the scope of consolidation
			−1,565	−146	−1,711	Acquisition of non-controlling interests
			−7,441		− 7,441	Transactions with owners (dividend)
			−23		−23	Other adjustments
897	**−1,918**	**−23,423**	**677,774**	**11,617**	**689,391**	**Balance at 31/12/2020**
897	**−1,918**	**−23,423**	**677,774**	**11,617**	**689,391**	**Balance at 1/1/2021**
			81,998	2,341	84,339	Net profit for the period
−1,557	18,562	5,346	22,348	624	22,972	Other comprehensive income after tax
−1,557	**18,562**	**5,346**	**104,346**	**2,965**	**107,311**	**Total comprehensive income**
			−14,310	−1,733	−16,043	Transactions with owners (dividend)
		257	0		0	Transfer of actuarial effects to cumulative gains
−659	**16,644**	**−17,820**	**767,811**	**12,849**	**780,659**	**Balance at 31/12/2021**

Notes

1 Presentation of the Group Structure

1.1 Parent Company

The parent company is JENOPTIK AG, Jena, Germany, and is registered in the Commercial Register of Jena in Department B under the number 200146. JENOPTIK AG is listed on the German Stock Exchange in Frankfurt and traded on the TecDax and SDax, amongst others.

The list of shareholdings of the Jenoptik Technology Group is published in the Federal Gazette in accordance with § 313 (2) Nos. 1 to 4 of the German Commercial Code (Handelsgesetzbuch [HGB]) and is disclosed from page 245 on in the Notes under the heading "List of Shareholdings of the Jenoptik Group". The entities to which the simplification relief regulations were applied as specified in § 264 (3) or § 264b of the HGB, are disclosed in the section "Required and Supplementary Disclosures under HGB".

1.2 Accounting Principles

The consolidated financial statements of JENOPTIK AG were prepared for the 2021 fiscal year in accordance with the International Financial Reporting Standards (IFRS) and the binding interpretations of the International Financial Reporting Interpretations Committee (IFRIC) in force at the reporting date for use in the European Union.

The consolidated financial statements were presented in euros. Unless otherwise specified, all amounts are presented in thousand euros. Please note that there may be rounding differences compared to the mathematically exact amounts (monetary units, percentages, etc.). The consolidated statement of income was prepared in accordance with the cost of sales method.

The fiscal year of JENOPTIK AG and of its subsidiaries included in the consolidated financial statements corresponds with the calendar year.

In order to improve the clarity of the presentation, individual items were aggregated in the statement of total other comprehensive income and the statement of financial position. The classifications used for these items are listed in the Notes.

Changes in accounting policies

The following IFRS were applied for the first time in the fiscal year 2021:

Amendments to IFRS 4: Extension of the temporary relief from the application of IFRS 9. IFRS 4 is not applicable to the Group. This amendment therefore has no material impact on the consolidated financial statements.

Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4, and IFRS 16: Reform of the reference interest rates – Phase 2. In August 2020, the IASB passed amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4, and IFRS 16 in respect of the reform of the reference interest rates. The amendments provide for temporary relief when a reference interest rate (IBOR) is replaced by an alternative near-risk-free rate (RFR) and this has an impact on the financial reporting.

The amendments are to be applied for fiscal years from January 1, 2021. There are no financial instruments in hedging transactions that are linked to the IBOR as the reference interest rate. To that extent, the changes have no impact on the consolidated financial statements for the fiscal year 2021.

Amendments to IFRS 16: Rental concessions in connection with Covid-19 after June 30, 2021. In March 2021, the IASB extended the valid period of the amendment to IFRS 16 which grants optional relief for lessees in the assessment as to whether a concession in conjunction with Covid-19 constitutes a modification of the lease under IFRS 16. Lessees can instead account for these rental concessions using the same method that would apply if this did not involve a modification of the lease contract.

The amendments are to be applied from July 1, 2021. As there were no rental concessions in the context of Covid-19 for the Jenoptik Group companies, the optional relief is not applicable, so the changes do not affect the consolidated financial statements.

Standards which have been published but not yet adopted by the EU as mandatory

The application of the following standards and interpretations published by the IASB and adopted by the EU is not yet mandatory and they were not taken into account by Jenoptik in the consolidated financial statements as of December 31, 2021. The Group has no plans to apply these standards early.

Amendments to IAS 16: Generation of revenues before an asset has reached operational readiness. The IASB published amendments to IAS 16 in May 2020. Thereafter, entities will no longer be permitted to deduct proceeds from the sale of goods produced, whilst an item of property, plant, and equipment is being brought to their location and in the operational readiness intended by management, from the acquisition or production costs of this item of property, plant, and equipment. Instead, these revenues, together with the costs of production for these goods, must be recorded in the income statement.

The amendments are valid for fiscal years commencing on or after January 1, 2022 and are to be applied retrospectively to property, plant, and equipment that has been brought to operational readiness during the reporting period of its initial application. Jenoptik does not expect the amendments to have any or any significant impact on the consolidated financial statements.

Amendments to IAS 37: Onerous contracts – costs for the performance of a contract. In May 2020, the IASB published amendments to IAS 37 in order to specify the costs which an entity has to take into consideration when assessing whether a contract is onerous or loss-making. The amendment is based on costs which relate directly to the contract (directly related cost approach). The costs associated with the performance of contracts for the supply of goods or the provision of services, include both the directly attributable (incremental) costs of the performance of the contract as well as overheads that relate directly to activities for the performance of the contract. General administrative expenses are not directly related to the contract and are therefore not covered by the contract performance costs, unless the contract makes express provision for these to be passed on to the customer.

The amendments are valid for fiscal years commencing on or after January 1, 2022. Since the current accounting method already corresponds to the specification of IAS 37, Jenoptik does not expect any impact on the consolidated financial statements.

Amendments to IFRS 3: Reference to the framework concept. The IASB published amendments to IFRS 3 in May 2020: The amendments replace the reference to the Framework for the Preparation and Presentation of Financial Statements published in 1989 with a reference to the Financial Reporting Framework Concept published in March 2018, with no significant amendment to the existing rules of the Standard.

The amendments are valid for fiscal years commencing on or after January 1, 2022 and are to be applied prospectively. Jenoptik does not anticipate any significant impact on the consolidated financial statements.

Annual improvement process (2018–2020) – Amendment to IAS 41: Taxation for valuations reported at fair value. IAS 41 is not applicable to the Group. This amendment will therefore have no material impact on the consolidated financial statements.

Annual improvement process (2018–2020) – Amendment to IFRS 1: Subsidiaries as first-time users. As part of its annual improvement process to the IFRS for the 2018-2020 cycle, the IASB carried out an amendment to IFRS 1. The amendment allows subsidiaries applying paragraph D16(a) of IFRS 1 to value accumulated conversion differences based on the amounts reported by the parent company, based on the date on which the parent company switched to IFRS. This amendment is also valid for associated entities and joint ventures which apply IFRS 1.D16(a).

The amendment is valid for fiscal years commencing on or after January 1, 2022. Early application is allowed. Since the Jenoptik Group applies the accounting according to IFRS it does not expect any impact on the consolidated financial statements.

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Annual improvement process (2018–2020) – Amendment to IFRS 9: Charges for the 10% current value test in relation to the derecognition of financial liabilities. The amendment to IFRS 9 clarifies which charges an entity has to take into account when assessing whether the terms of a new or modified financial liability differ materially from those of the original financial liability. This only includes charges which have been paid or received between the borrower and the lender, including those charges which have been paid or received either by the borrower or by the lender on behalf of the other respectively.

The amendment is valid for fiscal years commencing on or after January 1, 2022. Early application is allowed. Jenoptik does not expect the amendments to have any significant impact on the consolidated financial statements.

Annual improvement process (2018–2020) – Amendments to IFRS 16: Lease incentives. The amendment deletes the presentation of the reimbursement for tenant installations by the lessor from Explanatory Example 13 to IFRS 16 in order to remove confusion regarding the treatment of lease incentives that might result from the presentation of lease incentives in this example.

The amendment is valid for fiscal years commencing on or after January 1, 2022. Early application is allowed. Jenoptik does not anticipate any impact on the consolidated financial statements.

Standards which have been published but not yet adopted by the EU as mandatory

The following standards published by the IASB have not yet been adopted by the European Union.

Amendments to IAS 1: Categorization of liabilities as current or non-current. In January and July 2020, the IASB published amendments to IAS 1 in order to clarify the rules on the classification of liabilities as current or non-current. These changes relate, among others, to the classification if financial conditions (covenants) exist. The rights of the reporting entity as at the reporting date are therefore definitive for the classification of liabilities. A liability is to be classified as non-current if the entity is entitled to postpone the settlement of the liability by at least 12 months after the reporting date of the balance sheet, taking into account the circumstances or expectations on the respective reporting date.

The amendments are valid for fiscal years commencing on or after January 1, 2023. Based on the amendments to the standard, a different classification and a related reclassification of existing liabilities in the Jenoptik Group may be required.

Amendments to IAS 1 and IFRS Practice Statement 2: Disclosure of accounting methods. In accordance with the amendments to IAS 1 and IFRS Practice Statement 2 published by the IASB in February 2021, in future only material accounting methods will have to be presented in the notes. In the future, this should eliminate irrelevant information and focus on entity-specific explanations instead of standardized explanations. The amendments also include guidance and explanatory examples which are intended to simplify the assessment as to when to classify information on accounting methods as material.

The amendments to IAS 1 are valid for fiscal years commencing on or after January 1, 2023. The scope of the disclosures in the notes on accounting methods in Jenoptik's consolidated financial statements, will change in accordance with the requirements.

Amendments to IAS 8: Definition of accounting-related estimates. In February 2021, the IASB published amendments to IAS 8 introducing a new definition of accounting-related estimates. The amendments clarify to what extent amendments to estimates differ from amendments in accounting methods and corrections to errors.

The amendments are valid for fiscal years commencing on or after January 1, 2023. They are to be applied to amendments in accounting-related estimates and accounting methods made at or after the beginning of this fiscal year. Earlier application is allowed. Jenoptik does not anticipate any impact on the consolidated financial statements.

Amendments to IAS 12: Deferred taxes relating to assets and liabilities resulting from one single transaction. In May 2021, the IASB published amendments to IAS 12 that specify how an entity accounts for income taxes, including deferred taxes. Under certain circumstances, entities are exempt from recognizing deferred taxes when they recognize assets or liabilities for the first time. Until now, there has been uncertainty as to whether the exemption applies to transactions in the context of leases and dismantling obligations. The amendments clarify that this exemption does not apply and that entities must recognize deferred taxes on such transactions.

The amendments are valid for fiscal years commencing on or after January 1, 2023 and may be applied early. Jenoptik does not anticipate any material impact on the consolidated financial statements.

IFRS 17: Insurance contracts. The standard is not applicable to the Group and will therefore have no impact on the consolidated financial statements:

1.3 Estimates

The preparation of the consolidated financial statements in accordance with IFRS, as are to be applied in the EU, requires that assumptions be made for certain items, affecting their recognition in the consolidated statement of financial position or in the consolidated statement of comprehensive income, as well as the disclosure of contingent receivables and liabilities. All assumptions and estimates are made to the best of the Group's knowledge and belief in order to provide a true and fair picture of the asset, financial, and earnings situation of the Group.

The underlying assumptions and estimates are continually reviewed. This gives the author of the consolidated financial statements a certain amount of discretionary leeway. Against the background of the Covid-19 pandemic, there is increased uncertainty as to estimates and risks with regard to significant adjustments to carrying amounts. The assumptions and estimates made for the preparation of these consolidated financial statements relate mainly to:

- the assumptions and parameters for the valuation of intangible assets identified in the context of purchase price allocations (see section "Corporate acquisitions and disposals" from page 175 on),
- the valuation of contingent purchase price liabilities arising from mergers (see section "Corporate acquisitions and disposals" from page 175 on as well as "Financial instruments" from page 228 on),
- the determination of the fair value for the valuation of non-current assets held for sale or disposal groups and discontinued operations (see section "Non-current assets or disposal groups held for sale and discontinued operations" from page 185 on),
- the realizability of future tax breaks – in particular arising from losses carried forward – in the valuation of deferred tax assets (see section "Income taxes" from page 193 on),
- the assessment of impairment to goodwill, also under consideration of the Covid-19 pandemic (see section "Intangible assets" from page 197 on),
- the assessment of impairment to non-current assets in accordance with IAS 36, in particular with regard to the forecast cash flows also under consideration of the Covid-19 pandemic (see section "Impairment of property, plant, and equipment and intangible assets" from page 181 on),
- the assessment of the technical feasibility and future economic benefits, in particular with regard to the projected cash flows from development projects when capitalizing development costs in accordance with IAS 38 (see section "Intangible assets" from page 197 on),
- the definition of useful lives for the assessment of intangible assets and property, plant, and equipment (see section "Intangible assets" from page 197 on and section "Property, plant, and equipment" from page 201 on),
- the assessment of the likelihood of extension, purchase or termination options for the valuation of the leasing liabilities in accordance with IFRS 16, being exercised (see section "Leasing" from page 203 on),
- the method for valuing inventories, as well as for defining valuation routines and discounts, (see section "Inventories" from page 206 on),
- the estimate of anticipated losses as part of the valuation of contract assets and trade receivables (see section "Contract assets and contract liabilities" from page 185 on as well as "Trade receivables" from page 207 on),

- the actuarial parameters for the valuation of provisions for pensions and similar obligations (see section "Provisions for pensions and similar obligations" from page 186 on),
- the assumptions and methods for valuing other provisions – for example, warranty obligations and actuarial parameters of personnel provisions (see section "Other provisions" from page 218 on),
- the identification of separate payment obligations and allocation of the transaction price (see section "Revenue" from page 187 on).

2 Consolidation Principles

2.1 The Group of consolidated entities

Along with JENOPTIK AG, all significant subsidiaries have been included fully in the consolidated financial statements. The list of shareholdings is shown in the Notes in the section "List of Shareholdings in the Jenoptik Group" from page 245 on.

The consolidated financial statements of JENOPTIK AG includes 47 (prior year: 49) fully consolidated subsidiaries. Of which 12 (prior year: 14) have their legal seat in Germany and 35 (prior year: 35) have theirs abroad. 3 entities (prior year: 3) will continue to be included in the consolidated financial statements based on the at-equity method.

As at the closing on November 30, 2021, Jenoptik acquired BG Medical Applications GmbH and the SwissOptic Group. Further information is included in the section "Acquisitions and sales of entities" from page 175 on.

As part of the disposal of the non-optic process metrology business for grinding machines, all shares in JENOPTIK Industrial Metrology Switzerland SA, Peseux, Switzerland were sold and the entity deconsolidated.

A number of internal group mergers took place in the fiscal year 2021. In addition, two non-operating companies were dissolved. The mergers and dissolutions had no impact on the Group.

The subsidiaries in the table below have material investments held by non-controlling shareholders: Additional entities have insignificant investments held by non-controlling shareholders. The corresponding minority investments can be seen in the List of Shareholdings from page 245 on.

Name	Company's head office	Non-controlling interests
JENOPTIK Korea Corporation Ltd.	Korea	33.34
Trioptics Optical Test Instruments (China) Ltd.	China	49.00
Trioptics Hong Kong Limited (through Trioptics China)	Hong Kong	49.00
Trioptics Japan Co., Ltd.	Japan	38.75
Trioptics Korea Co., Ltd.	Korea	40.00
TRIOPTICS TAIWAN LTD.	Taiwan	49.00

The table on page 174 summarizes the financial information of subsidiaries with significant investments based on their individual financial statements including IFRS adjustments and impacts arising from the purchase price allocation. Impacts of the consolidation were not taken into account. The revenue, earnings, and cash flow figures of the TRIOPTICS entities in the prior year represent contributions with effect from the date of the initial consolidation.

2.2 Consolidation procedures

The assets and liabilities of the domestic and foreign entities included fully in the consolidated financial statements are recognized in accordance with the uniform accounting policies and valuation methods applicable for the Jenoptik Group.

At the acquisition date, the capital consolidation is based on the acquisition method. In this context, the assets and liabilities of the subsidiaries are recognized at fair values. Furthermore, identifiable intangible assets are capitalized and contingent liabilities classified as liabilities as defined in IFRS 3.23. The remaining difference between the purchase price and the acquired net assets corresponds to the goodwill. This is subject to an annual impairment test in the subsequent periods in accordance with IAS 36.

Receivables and payables as well as expenses and income between the consolidated entities are eliminated. The Group's inter-company goods and services are delivered and rendered both based on market prices as well as transfer prices which are determined on the basis of the "dealing-at-arm's-length" principle. Assets from inter-company deliveries included in the inventories and property, plant, and equipment are adjusted by interim results. Consolidation procedures recognized as profit or loss are subject to the delimitation of deferred taxes, with deferred tax assets and deferred tax liabilities being netted if there is a legally enforceable right to offset current tax refund claims against current tax liabilities and only if they concern income taxes levied by the same tax authority.

Changes in shareholdings in subsidiaries which reduce or increase the investment ratio without loss of control, are shown as transactions between equity investors, outside of profit or loss.

In the event of loss of control of a subsidiary, the assets and liabilities of the subsidiary are derecognized (deconsolidation) and any resulting gain or loss taken int account in the income statement.

There was no change in the consolidation methods compared with the prior year.

2.3 Foreign currency conversion

Annual financial statements of the consolidated entities prepared in foreign currencies are converted based on the functional currency concept as defined in IAS 21 "The Effects of Changes in Foreign Exchange Rates" by using the modified reporting date exchange rate method. Since the subsidiaries conduct their business activities independently from the financial, economic, and organizational aspects, the functional currency of the entities is generally identical to that of their respective national currency.

Assets and liabilities are consequently converted at the exchange rate on the reporting date, whereas income and expenses are converted at the annual average exchange rate which is determined on month wise. The resulting difference arising from the currency conversion is offset outside of profit or loss and shown separately in equity under foreign currency reserves.

If a consolidated entity leaves the group of consolidated entities, the corresponding difference arising from the foreign currency conversion is reversed through profit or loss.

in thousand euros	JENOPTIK Korea	Trioptics China	Trioptics Hong Kong	Trioptics Japan	Trioptics Korea	Trioptics Taiwan
Revenue	6,445 (6,417)	22,034 (4,292)	15,106 (5,567)	7,936 (2,241)	2,756 (1,226)	3,610 (4,434)
Earnings after tax	429 (705)	4,171 (−113)	2,072 (559)	411 (43)	−88 (317)	−36 (780)
Earnings after tax from non-controlling interests	143 (235)	2,044 (−56)	1,015 (274)	159 (17)	−35 (127)	−18 (382)
Other comprehensive income	−8 (−19)	649 (25)	450 (−271)	−132 (−73)	−38 (199)	315 (22)
Total other comprehensive income	421 (686)	4,821 (−88)	2,522 (288)	279 (−30)	−126 (516)	279 (802)
Total other comprehensive income from non-controlling interests	140 (229)	2,362 (−43)	1,236 (141)	108 (−12)	−50 (206)	137 (393)
Non-current assets	141 (363)	1,824 (1,879)	2,840 (3,343)	3,387 (3,863)	1,224 (1,496)	2,174 (2,417)
Current assets	3,336 (3,030)	11,886 (8,856)	9,225 (10,631)	3,706 (3,386)	2,900 (3,253)	3,298 (4,304)
Non-current liabilities	15 (38)	813 (989)	470 (553)	876 (936)	225 (274)	666 (726)
Current liabilities	939 (1,252)	5,669 (5,247)	4,544 (6,906)	1,464 (1,523)	424 (370)	1,213 (1,897)
Net assets	2,524 (2,103)	7,228 (4,498)	7,051 (6,515)	4,752 (4,790)	3,476 (4,105)	3,593 (4,099)
Net assets from non-controlling interests	842 (701)	3,542 (2,204)	3,455 (3,193)	1,841 (1,856)	1,390 (1,642)	1,760 (2,009)
Cash flow from operating activities	473 (1,036)	6,872 (920)	3,981 (1,130)	1,425 (−133)	46 (1,241)	−92 (200)
Cash flows from investing activities	47 (−9)	42 (1)	0 (0)	35 (−58)	−82 (5)	−1,613 (309)
Cash flows from financing activities	−30 (−32)	−2,425 (−2,129)	−1,987 (0)	−490 (−44)	−568 (−15)	−867 (−68)
Change in cash and cash equivalents	491 (995)	4,489 (−1,207)	1,994 (1,130)	970 (−235)	−604 (1,231)	−2,571 (442)

The figures in brackets relate to the prior year

Receivables and payables in the individual financial statements of consolidated entities prepared in a local currency which is not the functional currency of the subsidiary, are converted at the exchange rate on the balance sheet date in accordance with IAS 21. Differences arising from the foreign currency conversion are shown under other operating income or other operating expenses affecting the results and, if these are derived from financial transactions, are recognized under financial income or financial expenses (see details on the Income Statement from page 189 on). This excludes currency conversion differences arising from loans which constitute a part of the net investment in a foreign operation. These differences from foreign currency conversions are recorded in other comprehensive income outside or profit or loss until the sale of the net investment; it is only at the time of their disposal that the cumulative amount is reclassified into the income statement.

The exchange rates used for the conversion are shown in the table below:

		Annual average exchange rate		Exchange rate on the reporting date	
	1 EUR =	1/1 to 31/12/2021	1/1 to 31/12/2020	31/12/2021	31/12/2020
Australia	AUD	1.5747	1.6554	1.5615	1.5896
Canada	CAD	1.4835	1.5294	1.4393	1.5633
Switzerland	CHF	1.0814	1.0703	1.0331	1.0802
China	CNY	7.6340	7.8708	7.1947	8.0225
Great Britain	GBP	0.8600	0.8892	0.8403	0.8990
Hong Kong	HKD	9.1988	9.2193*	8.8333	9.5142
India	INR	87.4861	84.5795	84.2292	89.6605
Japan	JPY	129.8575	121.7754	130.3800	126.4900
Korea	KRW	1,353.9456	1,345.1058	1,346.3800	1,336.0000
Malaysia	MYR	4.9026	4.7935	4.7184	4.9340
Singapore	SGD	1.5896	1.5736	1.5279	1.6218
Taiwan	TWD	33.0346	33.8093*	31.5030	34.2880
USA	USD	1.1835	1.1413	1.1326	1.2271

* Average exchange rate from initial consolidation of the TRIOPTICS Group in September 2020

2.4 Acquisitions and sales of entities

Acquisitions

Acquisition of BG Medical Applications GmbH and the SwissOptic Group

With the signing of the contract in mid-October 2021 and the closing on November 30, 2021, JENOPTIK AG, via JENOPTIK Optical Systems GmbH and JENOPTIK Asia-Pacific Pte. Ltd., acquired 100 percent of the shares in the following entities respectively:

- BG Medical Applications GmbH (BG Medical, renamed JENOPTIK Medical GmbH in January 2022), Berlin, Germany
- SwissOptic AG, Heerbrugg, Switzerland
- SwissOptic (Wuhan) Co., Ltd., Wuhan, China

With the acquisition of SwissOptic (Wuhan) Co., Ltd., Jenoptik also acquired control of its subsidiary Berliner Glas Wuhan Trading Co., Ltd., Wuhan, China.

With this acquisition, Jenoptik is strengthening its global and fast-growing photonics business and, in addition to the semiconductor equipment business, is significantly expanding, in particular, its medical technology business. BG Medical and the SwissOptic Group have a workforce of around 500 employees worldwide.

The information below is based on provisional figures. In addition to the determination of the acquired net assets, the provisional nature relates to the valuation of the assets identified in the process of purchase price allocation as well as the determination of the purchase price with a view to the finalization of the closing accounts as at the date of acquisition. The finalization of the initial consolidation of BG Medical and the SwissOptic Group will take place in the fiscal year 2022.

The provisional purchase price of 322,636 thousand euros comprises a fixed cash component for the acquisition of the shares. The purchase in the amount of 326,454 thousand euros was paid in November 2021. Due to the provisional closing accounts, a receivable from the adjustment of the purchase price in the amount of 3,818 thousand euros was capitalized.

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In return, the following net assets were acquired as at the date of the initial consolidation:

in thousand euros	Total
Non-current assets	**311,492**
Intangible assets	276,725
Property, plant, and equipment	34,176
Deferred tax assets	591
Current assets	**70,037**
Inventories	34,042
Current trade receivables	20,662
Other current assets	1,431
Cash and cash equivalents	13,902
Non-current liabilities	**26,972**
Pension provisions	4,019
Non-current financial debt	4,396
Deferred tax liabilities	17,866
Other non-current liabilities	692
Current liabilities	**31,921**
Other current provisions	7,039
Current financial debt	5,463
Current trade payables	11,182
Contract Liabilities	3,358
Other current liabilities	4,879

The acquired assets include receivables with a gross value of 21,060 thousand euros. The general default risk was taken into account through an impairment loss in the amount of the anticipated loss of 398 thousand euros. The acquired assets also include cash and cash equivalents amounting to 13,902 thousand euros.

In connection with the acquisition of shares in BG Medical and the SwissOptic Group, in addition to the revaluation of inventories, various customer relationships, a brand and an order backlog were identified as intangible assets as part of the purchase price allocation. The intangible assets are amortized over periods of between one month and 15 years. In addition, goodwill in the sum of 178,205 thousand euros was recorded in intangible assets, reflecting the acquisition of trained personnel and the synergy effects primarily in the areas of purchasing, research & development, and capacity optimization via the Wuhan site. The goodwill is allocated to the group of cash-generating units "Light & Optics" and is partially tax-deductible.

No contingent liabilities were identified during the corporate acquisition.

The costs incurred up to December 31, 2021 for the acquisition of BG Medical and the SwissOptic Group totaled 6,369 thousand euros. The costs incurred in 2021 were shown in other operating expenses.

The consolidated financial statements include revenues of 9,619 thousand euros and earnings after tax of minus 1,126 thousand euros from the inclusion of BG Medical and the SwissOptic Group. Earnings after tax include expenses from the scheduled amortization on the intangible assets identified within the framework of the purchase price allocation.

On the premise that the corporate acquisition would have already taken place as of January 1, 2021, the Jenoptik Group would show revenue of continuing operations of 864,848 thousand euros and earnings after tax of continuing operations of 94,554 thousand euros. In order to determine this information, it was assumed that the fair values and useful lives as of January 1, 2021 of the intangible assets identified in the context of the purchase price allocation, are identical to those as at the initial consolidation date. These proforma figures were produced solely for comparison purposes. They do not provide either a reliable indication of the operating results that would actually have been achieved if the acquisition had been made at the beginning of the period, nor of future results.

There were no further company acquisitions in the fiscal year 2021.

Acquisitions of the prior year: Acquisition of TRIOPTICS

On the closing date of September 24, 2020, Jenoptik Optical Systems GmbH successfully completed the acquisition of the initial 75-percent stake in the optics specialist Trioptics GmbH, Wedel, Germany. As of December 31, 2021 Jenoptik had acquired the remaining 25 percent of Trioptics GmbH. The acquisition took place at terms which had already been firmly agreed in the prior year. On the basis of the existing control and present ownership of the remaining 25 percent of the shares, Trioptics GmbH had already been 100 percent consolidated in the prior year from the date of acquisition.

With the acquisition of Trioptics GmbH, Jenoptik also gained control over its subsidiaries as followed:

- TRIOPTICS Berlin GmbH, Berlin, Germany
- TRIOPTICS Singapore PTE. LTD., Singapore
- Trioptics Optical Test Instruments (China) Ltd., Beijing, China
- Trioptics Hong Kong Limited, Hong Kong
- Trioptics Japan Co., Ltd., Shizuoka, Japan
- Trioptics Korea Co., Ltd., Suwon, Korea
- TRIOPTICS TAIWAN LTD., Taoyuan, Taiwan
- Trioptics, Inc., Rancho Cucamonga, California, USA

In addition, through the acquisition of the shares in Trioptics GmbH, 50 percent of Trioptics France S.A.R.L., Villeurbanne, France, was also acquired, which will be included in the consolidated financial statements as a joint venture from the time of the closing.

With the takeover of Trioptics GmbH, Jenoptik is consistently strengthening its focus on high-growth industries of the future. The complementary portfolio of TRIOPTICS enables additional offers of measuring systems and production systems for sensor solutions and optical micro-components. TRIOPTICS employs over 400 people worldwide and generates more than half of its revenues in Asia.

The finalization of the initial consolidation took place in the first nine months of 2021 but did not lead to any adjustments to the intangible assets and to the goodwill identified in the provisional purchase price allocation.

The purchase price of 308,151 thousand euros consisted of a cash component for the acquisition of the 75 percent of the shares (220,701 thousand euros), a subsequent purchase price for the remaining 25 percent of the shares (nominal 78,148 thousand euros, present value 76,939 thousand euros) and several conditional purchase price components (nominal 12,517 thousand euros, present value 10,511 thousand euros) together. The outstanding purchase price liabilities are discounted as of the reporting date using an interest rate that is dependent on the term and risk.

The conditional components of the purchase price accounted for at fair value included earn-out components depending on the EBITDA for the years 2020 and 2021 as well as a revenue-related bonus/malus scheme based on the year 2021. The conditional components range between minus 15 million euros and up to plus 45 million euros. The development of the conditional liabilities and receivables from the acquisition of Trioptics GmbH are shown in detail in the section "Financial instruments" from page 228 on.

In return, the following net assets were acquired at the time of initial consolidation:

in thousand euros	Total
Non-current assets	**283,904**
Intangible assets	254,062
Property, plant and equipment	24,164
Other non-current assets	5,678
Current assets	**86,555**
Inventories	39,070
Current trade receivables	10,277
Other current assets	6,668
Cash and cash equivalents	30,540
Non-current liabilities	**28,809**
Non-current financial debt	12,376
Deferred tax liabilities	13,431
Other non-current liabilities	3,002
Current liabilities	**23,281**
Other current provisions	3,124
Current financial debt	2,572
Current trade payables	2,928
Contract liabilities	10,610
Other current liabilities	4,048

The acquired assets included receivables with a gross value of 12,182 thousand euros. The general default risk was considered with an impairment loss in the amount of the expected loss of 1,905 thousand euros. The acquired assets also included cash and cash equivalents of 30,540 thousand euros.

In connection with the acquisition of the shares in Trioptics GmbH, in addition to the revaluation of inventories, a customer base, technologies, a brand and an order backlog were identified as intangible assets as part of the purchase price allocation. The amortization periods for intangible assets ranged from four and a half months to seven years. In addition, goodwill of 211,304 thousand euros was recognized for taking on the trained staff and for synergy effects from the areas of application of the optical components, the expansion of the customer base and the development of markets, which is included in the intangible assets. The goodwill was allocated to the group of cash-generating units "Light & Optics" and was not tax-deductible.

Contingent liabilities were not identified as part of the company acquisition.

Minority shareholders sometimes hold stakes in subsidiaries of Trioptics GmbH. The non-controlling interests in the companies were each considered with their share of the revalued net assets without recognizing goodwill. The valuation of the existing non-controlling interests at the time of initial consolidation was 10,218 thousand euros.

From the inclusion of TRIOPTICS, the consolidated financial statements in the prior year included revenue of 27,806 thousand euros and earnings after tax of minus 34 thousand euros. Earnings after tax included the expenses from the scheduled amortization of the intangible assets identified as part of the purchase price allocation.

Acquisition of INTEROB

On February 4, 2020, Jenoptik acquired 100 percent of the shares in INTEROB, SL, Valladolid, Spain, and INTEROB RESEARCH AND SUPPLY, SL, Valladolid, Spain, (together INTEROB) via JENOPTIK Automation GmbH.

The purchase price of 34,726 thousand euros consisted of a cash component (29,437 thousand euros) and a conditional component (nominal 7,113 thousand euros, present value 5,289 thousand euros) based on the achievement of agreed key earnings figures in 2020 until 2022 and recognized at fair value at the time of initial consolidation.

In return, Jenoptik acquired the following net assets at the time of initial consolidation:

in thousand euros	Total
Non-current assets	**30,779**
Intangible assets	27,805
Property, plant and equipment	2,730
Other non-current assets	244
Current assets	**20,782**
Current trade receivables	7,270
Contract assets	12,258
Other current assets	1,047
Cash and cash equivalents	207
Non-current liabilities	**5,000**
Non-current financial debt	2,757
Deferred tax liabilities	2,178
Other non-current liabilities	65
Current liabilities	**11,835**
Other current provisions	4,184
Current financial debt	6,557
Other current liabilities	1,094

In connection with the acquisition of the shares in INTEROB, a customer base and the order backlog were identified as intangible assets as part of the purchase price allocation. In addition, goodwill of 19,841 thousand euros was recognized for taking over the trained staff and for synergy effects from other areas of application in the field of automation solutions and robotics applications, the expansion of the customer base and the development of new markets. This is included in intangible assets. The goodwill of INTEROB was assigned to the group of cash-generating units “Light & Production” and was not tax-deductible.

Under the fiction that both company acquisitions had already taken place on January 1, 2020, the prior year's revenue of the continuing operations would have been 664,107 thousand euros and the earnings after tax of the continuing operations would have been 33,435 thousand euros. To determine this information, it was assumed that the fair values and useful lives of the intangible assets identified as part of the purchase price allocation as of January 1, 2020 are identical to those at the time of initial consolidation. These pro forma figures have been prepared for comparison purposes only. They are not a reliable indication of the operating results that would actually have been achieved had the acquisition occurred at the beginning of the period or of future results.

Disinvestments

Sale of the crystal growth business

At the beginning of July 2021 Jenoptik concluded an agreement for the sale of the crystal growth business to Hellma Materials GmbH. The closing date was August 31, 2021.

Sale of the non-optical process metrology business

In July 2021, Jenoptik reported the sale of its non-optical process metrology business for grinding machines to Marposs. The closing date was July 30, 2021. As part of the sale, all shares in JENOPTIK Industrial Metrology Switzerland SA, Peseux, Switzerland, were also sold.

Further information on the effects of the disposal of the crystal growth and non-optical process metrology businesses on the consolidated financial statement of Jenoptik can be found in the section “Other operating income” from page 190 on and in the section “Cash Flow Statement” from page 223 on.

Sale of VINCORION

On November 25, 2021 Jenoptik signed a contract on the sale of the VINCORION division, comprising the one-hundred percent owned subsidiaries JENOPTIK Advanced Systems GmbH, JENOPTIK Power Systems GmbH and JENOPTIK Advanced Systems, LLC. The purchaser was a fund managed by STAR Capital Partnership LLP.

With the conclusion of the binding purchase agreement, the VINCORION business segment is classified as discontinued operation and the assets and liabilities are shown as held for sale. Detailed information on the discontinued operation is provided in section “Discontinued operation" from page 194 on.

There were no further sales of companies in the fiscal year 2021.

2.5 Notes on other entities

Jenoptik holds shares in 6 (prior year 6) other entities with a maximum 50 percent investment quota respectively. These investments are of minor importance respectively and overall, for the asset, financial, and earnings situation of Jenoptik. Therefore, based on the principle of cost effectiveness and materiality, the equity valuation was not applied to these investments. The general disclosures on the investments are contained in the list of shareholdings of the Jenoptik Group from page 245 on.

3 Accounting Policies and Valuation Methods

3.1 Effects on accounting and valuations associated with Covid-19

In view of the continuing impact of the Covid-19 pandemic on the operating activities of the Jenoptik companies, an ongoing analysis is conducted of the potential effects on the statement of financial position and the effects on the group asset, financial, and earnings position.

The Covid-19 pandemic is having operational effects on Jenoptik’s earnings situation, particularly as a result of mobility restrictions. Risks in the global supply chains caused by Covid-19 also have an impact on purchase prices and inventories in the form of higher stocks to secure business operations. Both mobility restrictions and pandemic-related delays in the delivery of components also led to delays in revenue recognition and project postponements.

In addition, there are accounting and valuation effects, particularly from government grants that the Group has used in the prior year, to mitigate the economic consequences of Covid-19 and the overall economic situation. These relate to short-time working allowances and other government benefits, in part granted abroad. Insofar as the national requirements for the respective financial support are virtually certain to be met, the entitlement is recognized in the statement of financial position under other non-financial assets. In the fiscal year, support payments, in particular up to the 2nd quarter of 2021, totaling 3,028 thousand euros (prior year: 12,514 thousand euros) were recognized through profit or loss, leading primarily to lower personnel costs and consequently a corresponding improvement in the earnings situation. As of the balance sheet date, there were outstanding receivables from grants amounting to 262 thousand euros (prior year: 2,462 thousand euros).

Further explanations of accounting and valuation effects are contained in the respective disclosures in the income statement and statement of financial position.

3.2 Goodwill

Goodwill as stated in IFRS 3 corresponds to the positive difference between the consideration for a corporate merger and the newly acquired, revalued assets and liabilities, including certain contingent liabilities remaining after a purchase price allocation. Within the framework of this purchase price allocation, the identifiable assets and liabilities are not recognized at their previous carrying amounts but at their fair value. As part of the gaining of control over the acquired entity, non-controlling interests are valued according to the share of identifiable net assets.

Goodwill is recognized as an asset and subject to an impairment test at least once a year on a defined date or whenever there is an indication that the cash-generating unit could be impaired. An impairment loss to goodwill is recognized immediately through profit or loss and not reversed in later reporting periods.

3.3 Intangible assets

Intangible assets acquired in return for payment, primarily patents, trademarks, software, and customer relationships, are capitalized at their acquisition costs. Intangible assets with finite useful lives are subject to schedule amortization on a straight-line basis over their economic useful lives. This is generally a period of between three and ten years. The Group reviews whether its intangible assets with finite useful lives have suffered an impairment loss (see section "Impairment losses on property, plant, and equipment and intangible assets").

Internally generated intangible assets are capitalized if the recognition criteria specified in IAS 38 "Intangible assets" have been fulfilled.

Development costs are capitalized if a newly developed product or process can be clearly identified, is technically realizable and if there plans for production, own use, or marketing. Furthermore, it is assumed that, if capitalized, there is sufficient probability that the development costs will be covered by future financial cash inflows and can be reliably determined. Finally, there must be adequate resources available to conclude the development and enable the asset to be used or sold.

Internally generated intangible assets are subject to scheduled amortization on a straight-line basis over their anticipated useful lives. This is generally a period of between five and ten years.

Intangible assets not ready for use are subject to impairment tests at least on an annual basis (see section "Impairments of property, plant, and equipment and intangible assets"). Capitalized development costs are subject to scheduled amortization over the anticipated sales period of the products – in principle however no longer than five years. In this context, the acquisition and production costs cover all the costs directly attributable to the development process as well as appropriate portions of the overheads relating to the development. If the requirements for capitalization have not been fulfilled, the expenditures are recognized through profit or loss in the year they occurred.

Amortization on intangible assets is apportioned on the basis of the causer principle to the corresponding function areas in the income statement.

Research costs are recorded as current expenses in research and development expenses in accordance with IAS 38.

3.4 Property, plant, and equipment

Property, plant, and equipment are valued at acquisition and production cost, less scheduled, straight-line depreciation. The depreciation method reflects the anticipated pattern of consumption of the future economic benefits. If the acquisition cost of individual components of an asset is material (particularly in the case of buildings), the depreciation is applied separately for each part of the property, plant, and equipment. Where necessary, impairment losses reduce the amortized acquisition and production cost. In principle, government grants for non-current assets are deducted from the acquisition and production costs in accordance with IAS 20 "Accounting for and Presentation of Government Grants" (see section entitled "Government grants"). Production costs are calculated on the basis of directly attributable specific costs as well as proportionate, directly attributable cost of materials and production overheads including depreciation. In accordance with IAS 23 "Borrowing Costs", borrowing costs directly attributable to acquisition or production costs of a qualifying asset are capitalized as a portion of the acquisition or production costs.

Costs incurred for repairing property, plant, and equipment are generally treated as an expense. Subsequent acquisition costs for any components of property, plant, and equipment replaced at regular intervals, can be capitalized insofar as future economic benefits can be reasonably expected and the respective costs can be reliably measured.

Scheduled depreciation, unchanged from the prior year, is essentially based on the following useful lives:

	Useful life
Buildings	12–80 years
Machinery and technical equipment	5–15 years
Other equipment, operating and office equipment	3–15 years

If any items of property, plant, and equipment are decommissioned, sold or relinquished, the gain or loss arising from the difference between the proceeds of the sale and the residual carrying amount are recorded under other operating income or other operating expenses.

3.5 Impairment of property, plant, and equipment and intangible assets

Property, plant, and equipment and intangible assets with finite useful lives are assessed at each reporting date to see if there are any indications of possible impairment losses for the corresponding assets in accordance with IAS 36 "Impairment of Assets". If any such indications for specific assets or a cash-generating unit are identified, an impairment test will be performed on these assets.

The differentiation between the cash-generating units for goodwill purposes is carried out on division level and for property, plant, and equipment and other intangible assets on the level of the reporting units.

As part of the impairment test, the recoverable amount of an asset or cash-generating unit is first determined and then compared with the corresponding carrying amount in order to identify if there is any need for an impairment to be applied.

The recoverable amount is the higher of an asset's fair value less costs to sell and value in use of an asset or a cash-generating unit.

The amount designated as at fair value less costs to sell is that which could be achieved through the sale of an asset in a transaction at arm's length between knowledgeable and willing parties.

Value in use is determined based on discounted anticipated future cash inflows. This is based on a fair market interest rate before tax that reflects the risks of using the asset that are not yet considered in the estimated future cash inflows.

If the recoverable amount of an asset is estimated to be less than the carrying amount, it is then depreciated to the recoverable amount. The impairment loss is immediately shown in other operating expenses, affecting profit or loss.

If an impairment loss is reversed in a subsequent accounting period, the carrying amount of the asset must then be adjusted to the recoverable amount determined. The maximum limit for the reversal of an impairment loss is determined by the amount of the amortized acquisition or production costs that would have been recorded if an impairment loss had not been recognized in prior periods. The impairment reversal is immediately shown in other operating income, affecting profit or loss.

3.6 Government grants

IAS 20 distinguishes between grants related to acquiring non-current assets and grants related to income.

IAS 20 specifies in principle that public grants which mainly relate to public subsidies to mitigate the economic consequences of Covid-19 and the overall economic developments in the year under review, are recognized through profit or loss in the same period.

In the Jenoptik Group grants for non-current assets are deducted from the acquisition and production costs. Correspondingly, the amount to be written off is determined on the basis of the reduced acquisition and production costs.

3.7 Leases

On commencement of contract, the Group assesses whether a contract constitutes or contains a lease. This is the case if the contract provides the entitlement to control the use of an identified asset for a specific period in return for payment of a remuneration. As a lessee, Jenoptik fundamentally accounts for the rights of use of the lease items and the corresponding leasing liabilities in accordance with IFRS 16.

Rights of use are valued at acquisition costs less all accumulated depreciation. The acquisition costs include the recognized leasing liabilities, the initial direct costs incurred as well as the lease payments made at or before provision. Rights of use are subject to planned, straight-line depreciation over the shorter of the two periods of duration and anticipated useful life and for real estate class assets amount to one to 25 years and for machinery, technical equipment as well as other equipment, operating and office equipment class assets, one to five years. The rights of use are recognized in the item in the statement of financial position in which the underlying asset would be shown if it were the property of the Group.

Leasing liabilities are recognized at current value. These entail fixed payments, variable lease payments linked to an index or interest rate, payments arising from a contractually guaranteed residual value, payments from the exercising of extensions or purchase options deemed to be sufficiently secure and contractual penalties for the exercising of sufficiently secure termination options.

When calculating the current value of the lease payments, the Group applies its incremental borrowing rate on the date of provision if the interest rate underlying the lease cannot be readily determined. The Group's leasing debt are shown in the items "non-current financial debt" and "current financial debt".

The Group makes use of the practical expedients offered by IFRS 16 and recognizes the lease payments for short-term leases (excluding property) as well as low-value leased assets as expenses on a straight-line basis over the term of the lease.

3.8 Investment property

Investment property comprises plots of land and buildings held for gaining rental income or for the purpose of their value increasing. These properties are not held for the Group's own production, for supplying goods or rendering services, for administration purposes or for any sales in the ordinary course of business activities.

In accordance with the right of choice under IAS 40 "Investment Property", such assets are to be accounted for at the amortized acquisition or production costs. The fair values to be stated are determined using the discounted cash flow method.

The straight-line depreciation method is based on a useful life of between 20 to 80 years.

In accordance with IAS 36, depreciation resulting from impairment losses on investment property is made if the value in use or fair value less costs to sell of the respective asset is less than the carrying amount. If the reasons for an impairment loss resulting from depreciation from a prior period cease to exist, corresponding write ups are recorded. The maximum limit for the reversal of an impairment loss is determined by the amount of the amortized acquisition or production costs that would have been recorded if an impairment loss had not been recognized in prior periods.

3.9 Financial instruments

Financial instruments are contracts giving rise to a financial asset of one entity and to a financial liability or an equity instrument of another entity. As defined in IAS 32, such instruments include on the one side primary financial instruments such as trade receivables and trade payables or financial receivables and financial payables. On the other side, they also include derivative financial instruments which are used for hedging risks arising from fluctuations in interest and foreign currency exchange rates.

Financial assets and financial liabilities are recognized in the consolidated statement of financial position from the date on which the Group becomes a contractual party in a financial instrument.

Depending upon the Group's business model for managing assets and the question as to whether the contractual cash flows of the financial instruments exclusively constitute repayments and interest payments on the outstanding nominal amount, the existing financial instruments are categorized in accordance with IFRS 9 either as "at amortized acquisition costs", "at fair value outside profit or loss in other comprehensive income", or "at fair value recorded through profit or loss" and valued accordingly.

The amortized acquisition costs of a financial asset or a financial liability are defined as the amount at which a financial asset or financial liability was valued when recognized for the first time

- minus any repayments,
- minus any impairment losses or potential inability to be recovered, as well as
- plus/minus the cumulative distribution of any difference between the original amount and the amount repayable on maturity (e.g., premium and transaction costs). Under the effective interest method, this difference is spread over the full contractual term of the financial asset or financial liability.

The amortized acquisition costs for current receivables and payables generally reflect the nominal amount or the repayment value.

Fair value generally corresponds to the market or stock market value. If there is no active market, the fair value is determined by using financial mathematical methods such as by discounting estimated future cash flows at market interest rates or by applying standard option price models and by checking confirmations issued by the banks that sold the instruments.

a) Primary financial instruments

Shares in entities

Initial recognition in the statement of financial position is based on the fair value.

In the Jenoptik Group, all long-term shareholdings in companies are classified as “outside profit or loss at fair value in other comprehensive income” based on the exercising of the voting right granted in accordance with IFRS 9 and valued at fair value. In the absence of any identifiable market prices, the fair values of these financial instruments are determined on the basis of discounted cash flows. Changes in value are recorded in other comprehensive income outside of profit or loss.

Investments valued using the at-equity method

Shares in entities over which Jenoptik exerts key influence, as well as shares in joint ventures, are valued in accordance with the at-equity method under IAS 28. For this purpose, the original investment carrying amount is updated with the shares in the company’s Consolidated Statement of Changes in Equity to which the shareholders are entitled. Shares in the profit or loss are recognized through profit or loss, whilst shares in other comprehensive income are, by contrast, recorded outside profit or loss.

Loans

Loans involve credit granted by the Jenoptik Group and are to be valued at the amortized acquisition costs in accordance with IAS 9.

Non-current, non-interest-bearing loans and low interest-bearing loans are accounted for at current value. If any objective, substantial evidence of impairment can be identified, then unscheduled depreciation is applied.

Trade receivables

Trade receivables are non-interest bearing due to their short-term nature and are recognized at nominal value less impairment losses on the basis of anticipated bad debts (amortized acquisition costs). The anticipated bad debts are determined in accordance with IFRS 9 via the simplified method. In this context, consideration is given to both the individual default risk as well as an anticipated default risk derived from past events for a group of receivables with comparable default risks (portfolio-based impairment) through the recognition of a provision for risk in the amount of the bad debts anticipated over the entire period. When the loss of a trade receivable is finally realized, the receivable is derecognized by using any impairment previously recognized. Similarly, the receivable is derecognized when the contractual rights relating to the cash flows arising from the receivable expire, or the rights to receive the cash flows are transferred in a transaction in which all the risks and opportunities associated with the ownership of the receivable are transferred. As part of the factoring, the receivables are held for collection or in some cases for resale.

Other financial investments

Other financial assets are recognized at amortized acquisition costs. All identifiable default risks are accounted for by a corresponding impairment.

Non-current, non-interest-bearing or low interest-bearing receivables are discounted.

Current financial investments

In accordance with IFRS 9, current cash deposits and current financial receivables are classified as “at amortized acquisition costs” and securities as “at fair value through profit or loss” and valued accordingly.

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand, checks and bank credit balances available on demand with an original maturity of up to three months. These are recognized at the nominal amount less a provision for the risk of anticipated loan defaults.

Equity instruments

An equity instrument is any contractual agreement containing a residual interest in the assets of the Group after all liabilities have been deducted. Shares which have been issued are classified as equity, whereby the costs (less related income tax benefits) directly attributable to the issue of treasury shares, have been deducted from equity.

Liabilities to banks

Interest-bearing bank loans and overdraft lines of credit are accounted for at the amounts received less any directly attributable disbursement expenses. Financing costs, including premiums payable on repayment or redemption, are recognized in accordance with the accruals principle, using the effective interest method. Amortization via the effective interest method is included in the income statement as part of the financial expenses.

Other financial liabilities

In principle, financial liabilities are valued at amortized acquisition costs by applying the effective interest method. This does not apply to financial liabilities which are accounted for at fair value through profit or loss.

b) Derivative financial instruments

The Jenoptik Group uses derivative financial instruments for hedging risks arising from fluctuations in interest and foreign currency exchange rates. They serve to reduce earnings volatility resulting from interest and foreign currency exchange rate risks. Fair value is determined by considering the market conditions – interest rates, foreign currency exchange rates – at the balance sheet date and using the valuation methods presented below.

Derivative financial instruments are not used for speculation purposes. The use of derivative financial instruments is subject to a group guideline which governs the use of derivative financial instruments. The Group uses cash flow hedges to hedge risks from fluctuations in foreign currency exchange and interest rates.

Changes in the fair value of derivative financial instruments which serve to hedge cash flow risks, are documented. If the hedge accounting has been classified as effective, the changes in fair value are recognized outside of profit or loss in other comprehensive income. Reclassifications from equity to profit or loss are carried out in the period during which the hedged underlying transaction affects profit or loss. Fluctuations in value arising from financial instruments which are classified as not effective are recorded directly in profit or loss.

3.10 Inventories

Inventories are recognized at the lower of acquisition or production costs and their net realizable value.

The net realizable value is the estimated proceeds from sale less the estimated production costs and any further costs incurred up to sale. For determining the net realizable value, devaluation routines are applied in addition to case-by-case assessment. The range, market price (based on existing orders) as well as marketability, serve as indicators of lower net sales proceeds. In this context, the specific discount rates are regularly reviewed and, if necessary, adapted.

Acquisition costs also include any other costs incurred to restore the inventories to their current condition. These take into account any reductions such as rebates, bonuses or trade discounts.

Production costs include the full costs relating to production that have been determined based on normal production capacity utilization. In addition to direct costs, these also include the appropriate portion of the necessary material and production overheads as well as production related depreciation which can be directly attributable to the production process. In this context, particular account is taken of the costs that are allocated to specific production cost centers. Administrative expenses are also considered insofar as they can be allocated to production. If amounts at the reporting date have decreased owing to lower prices on the sales market, then these are recognized. In principle, the valuation of similar inventory assets is based on the average cost method. If the reasons that led to a write-down of inventories cease to exist and the net realizable value has consequently increased, the reversals of write-downs are recognized as a reduction in material expenses in the corresponding periods in which the reversal of the write-downs occurs.

3.11 Borrowing costs

Borrowing costs that can be directly attributed to the construction or production of a qualifying asset are capitalized as a portion of the acquisition or production costs of this asset.

3.12 Contract assets and contract liabilities

A contract asset is the as yet unconditional claim to the receipt of a consideration in return for goods or services transferred to a customer. If the Group meets its contractual obligations by transferring goods or services to a customer before the customer pays the consideration or before the payment is due, a contract asset will be recognized for the conditional claim to consideration in return. This gives rise to contract assets as the difference between the realized revenue from the respective order, less payments received and customer billings. Receivables from customers arising from invoices issued, are shown under trade receivables.

If the requested payments received and due, as well as the customer billings issued, exceed the realized revenue, a contract liability will be shown. A contract liability therefore constitutes the obligation of the group to transfer goods or services to a customer for which it, the Group, has received a consideration from the customer or for which a requested payment is due. Contract liabilities are recognized as proceeds as soon as the Group fulfills its contractual obligations.

The contractual liabilities additionally include obligations arising from agreed contractual penalties which must be taken into account in order to reduce turnover.

Contract assets reported in accordance with IFRS 15 are valued at the nominal value, taking into account impairment losses in the default amounts anticipated over the entire useful life.

3.13 Non-current assets or disposal groups and discontinued operation held for sale

Non-current assets or disposal groups held for sale

Non-current assets or disposal groups are classified as held for sale under IFRS 5 if their carrying amount will be recovered principally through a sale transaction rather than through continuing use and a sale is highly probable.

A transaction is considered highly probable if, on the reporting date, there are no significant risks to its completion, normally requiring the conclusion of binding contracts or at least agreement on all material terms of the contract.

Assets and liabilities classified as held for sale are reported separately as current items in the statement of financial position and valued at the lower of carrying amount and fair value less costs to sell.

Any impairment loss of a disposal group is first allocated to goodwill and then to the remaining assets.

Intangible assets and property, plant, and equipment classified as held for sale are no longer subject to scheduled depreciation / amortization.

Discontinued operation

A discontinued operation is a part of the entity that has been sold or is classified as held for sale and represents a separate, material line of business or geographic business unit.

The results of the discontinued operation are shown separately in the income statement. The comparison period is adjusted as though the business operation had been discontinued at the beginning of the comparison year.

3.14 Deferred taxes

The accounting for and valuation of deferred taxes is performed in accordance with IAS 12 “Income Taxes”. Deferred tax assets and deferred tax liabilities are shown as separate items in the statement of financial position to consider future tax effects resulting from timing differences between the statement of financial position valuations of assets and liabilities and tax losses carried forward.

Deferred tax assets and deferred tax liabilities are computed in the amount of the anticipated tax burden or tax relief in subsequent fiscal years based on the tax rate applicable on the date of realization. The effects of changes in tax rates on deferred taxes are recognized in the reporting period during which the legislative procedure on which the change in the tax rate is based has been completed.

Deferred tax assets on differences in the statement of financial position and on tax losses carried forward are only recognized if it is probable that these tax advantages can be realized in the foreseeable future.

Deferred tax assets and deferred tax liabilities are offset against each other insofar as taxes are levied by the same authority and relate to the same tax period. In accordance with the regulations of IAS 12, there is no discounting of deferred tax assets and liabilities.

3.15 Provisions for pensions and similar obligations

Pensions and similar obligations comprise the pension obligations of the Jenoptik Group arising from both defined benefit as well as defined contribution retirement schemes.

In accordance with IAS 19, pension obligations for defined benefit schemes are determined by applying the so-called projected unit credit method. An actuarial expert opinion for this procedure is obtained at least once a year.

In Germany, the mortality rates are determined in accordance with the Klaus Heubeck guideline mortality tables 2018 G. The LPP 2020 mortality tables apply in Switzerland, whilst in France it's the current tables of the INSEE. Actuarial gains and losses are recognized outside profit or loss in other comprehensive income. Past-service expenses are shown under personnel expenses and the interest portion of the addition to provisions is recorded in the financial result.

Assets that meet the requirements for plan assets under IAS 19.8 are recognized at their fair value and offset against the pension obligations.

For defined contribution schemes, the contributions payable are recognized immediately as an expense.

3.16 Tax provisions

Tax provisions contain obligations arising from current income taxes, including uncertain tax positions. Deferred taxes are disclosed in separate items in the statement of financial position.

Tax provisions for corporation tax and business tax or similar income tax expenses are determined based on the taxable income of the consolidated entities, less any prepayments made.

3.17 Other provisions

In accordance with IAS 37 "Provisions, Contingent Liabilities, and Contingent Assets", provisions are set aside insofar as there is any current liability to a third party resulting from a past event that is likely to lead to an outflow of resources in the future and the amount of which can be reliably estimated. Other provisions are only set aside for legal or de facto liabilities to third parties that are more likely than not at the reporting date.

Provisions are recognized at their settlement value discounted at the reporting date, providing the interest effect is significant. The settlement value also includes the anticipated price or cost increases. The discounting is based on non-negative interest rates before taxes that reflect current market expectations regarding the interest effect and which are dependent upon the corresponding term of the liability. The interest portion arising from the compounded of the provision, as well as any effects of changes in interest rates, are recognized in the financial result.

Provisions are valued based on empirical values, taking the circumstances at the balance sheet date into consideration.

Provisions for onerous contracts are recognized in the amount of the liability overhang from the difference between the unavoidable costs of fulfilling the contract and the anticipated economic benefits.

Provisions for guarantees and warranties are set aside for individual cases and on a lump-sum basis. The amount of the provision is based on the historical development of guarantees and warranties as well as on a consideration of all future potential guarantee or warranty claims, weighted by the probability of their occurrence.

Claims to the right of recourse are only considered if these claims are virtually certain.

3.18 Share-based remuneration

The members of the Executive Board and some senior management personnel of JENOPTIK AG receive multi-year variable remuneration in the form of long-term incentives (LTI) or performance shares. Both types of these virtual shares are accounted for in accordance with IFRS 2 as share-based remuneration with settlement in cash. At the balance sheet date and depending upon the contractual provisions, a provision is set aside in the amount either of the pro rata temporis or full fair value of the payment obligation. Changes in fair value are recognized through profit or loss up to fulfillment.

3.19 Contingent liabilities

Contingent liabilities are potential obligations that are based on past events and whose existence is only confirmed by the occurrence of one or more uncertain future events, which are, however, outside the control of the Jenoptik Group. Moreover, current obligations can constitute contingent liabilities if there is insufficient certainty regarding the likelihood of outflows of resources to set aside a provision and/or the amount of the obligation cannot be reliably estimated. The valuations of the contingent liabilities correspond to the existing scope of liability at the balance sheet date. In principle, they are not accounted for in the statement of financial position but are explained in the Notes.

3.20 Revenue

Proceeds from contracts with customers are recognized in accordance with IFRS 15 if the control of the goods or services is transferred to the customer. These are recognized in the amount of the consideration in return that the Group is expected to receive in exchange for these goods or services. For sales transactions with multiple performance obligations, revenues are apportioned based on the estimated relative individual selling prices.

Proceeds from the sale of goods are generally recorded at the time when control of the asset passes to the customer. The determination of this timing considers, among other things, the transfer of the legal ownership, the physical transfer of possession and any potentially agreed acceptance of the products by the customer.

In certain cases, the goods produced by Jenoptik as part of a specific order process represent assets with no alternative benefit to the Group. Subject to a claim for payment for the service rendered to date, the revenue is realized over a specific period, whereby the degree of completion is determined according to the input-oriented cost-to-cost method. This applies both to the production of individual assets as well as to development projects with subsequent volume production (customer-specific volume production).

Revenue from the rendering of services which represent separate performance obligations within the meaning of IFRS 15 and from which the customer can benefit at the same time as the service is rendered, are recognized over time according to the degree of completion as at the balance sheet date, whereby the degree of completion is generally determined according to the input-oriented cost-to-cost method.

The Group is usually subject to statutory warranties for the repair of defects that were present at the time of sale. These so-called assurance-type warranties are recognized under provisions for warranties in accordance with IAS 37. If agreed guarantees and warranty claims significantly exceed the usual framework (so-called service-type warranties), these are assessed and accounted for as a separate service obligation. In this case, the revenue for the applicable portion is realized on a straight-line basis over the agreed period of the service-type warranty.

Rental income received from investment property is recognized on a straight-line basis over the term of the corresponding rental contracts and disclosed in revenue.

If a contract contains several delimitable components (multi-component contracts), these will be implemented separately in accordance with the above principles.

In determining the consideration in return that Jenoptik receives for fulfilling a customer order, agreed variable components are estimated at the beginning of the contract and then included in the transaction price when it is highly likely that the elimination of the uncertainty associated with the variable components of the consideration in return will not lead to a cancellation of revenue which has already been recognized. At Jenoptik, this applies to both agreed discounts and bonuses as well as to possible contractual penalties.

Since advances received from the customer are generally short-term, the Group takes advantage of the simplification relief offered by IFRS 15 and refrains from taking a financing component into account when determining the consideration in return.

3.21 Cost of sales

Cost of sales show the costs incurred to generate revenue. This item also includes the costs for setting aside provisions for warranties and guarantees. The scheduled depreciation / amortization on intangible assets and property, plant, and equipment is shown in the respective functional costs according to their cause and included in cost of sales insofar as they are attributed to the production process.

3.22 Research and development expenses

Research and development expenses include non-capitalizable research and development expenses, except for research and development expenses for customer orders which are disclosed under cost of sales..

3.23 Selling expenses and general administrative expenses

Along with personnel expenses and cost of materials, selling expenses include the costs incurred for distribution, advertising, sales promotion, market research, and customer service. In addition, selling expenses also include the costs for contract initiation which are immediately recognized as an expense as a result of the application of the practical remedy under IFRS 15, since the period of depreciation for the asset that the Group would otherwise have recognized is not more than one year. Amortization of customer relationships and order backlogs acquired as part of corporate mergers are also recorded in the selling expenses.

General administrative expenses include personnel expenses and the cost of materials as well as administration-related depreciation.

3.24 Impairment gains and losses

Impairments to and reversals for trade receivables as well as contract assets in accordance with IFRS 9 are reported in the consolidated income statement in a separate item.

3.25 Other operating income and expenses

Income from the reversal of provisions is recorded in the functional costs, insofar as the provision was also set aside in the corresponding functional costs. If the provision was set aside in other operating expenses, the provision reversal will also be shown in other operating expenses. Furthermore, these items include currency exchange gains and losses arising from operational receivables and liabilities as well as net gains and losses arising from hedging instruments for these items. The items also include effects arising from the hedging of net positions. In addition to restructuring expenses, expenses for group projects are also allocated to other operating expenses. Income and expenses from the measurement of the fair value of contingent considerations arising from corporate acquisitions are shown in these items if the contingent considerations are dependent upon financial parameters within the EBIT. Similarly, gains and losses from the sale of consolidated entities as well as the contributions to earnings by investments, accounted for using the at-equity method and other taxes, are recognized in this item.

3.26 Investment income and investment expenses

The investment income and investment expenses of the Group mainly comprise income from dividend payments from investments and income from current financial investments. Impairment losses and reversals of impairment losses on financial investments are also recognized in these items.

3.27 Financial income and financial expenses

The financial income and financial expenses of the Group mainly comprise interest income and interest expenses. In addition, the financial result includes currency exchange gains and losses arising from financial assets and liabilities as well as net gains and losses arising from hedging instruments for these financial assets and liabilities.

4 Disclosures on the Statement of Income

With the conclusion of the binding purchase agreement the VINCORION segment has been classified as a discontinued operation. The results of this discontinued operation are shown separately in the income statement (see section "Discontinued operation" from page 194 on) and the information for the comparative period accordingly adjusted. The following information on the income statement relates to the continuing operations.

4.1 Revenue

Revenue increased overall by 135,251 thousand euros or 22.0 percent to 750,717 thousand euros compared to 2020.

Detailed disclosures on revenue by division and region are shown in the Segment Report from page 225 on.

A breakdown of revenue, recognized over time and at a point in time, is shown in the table below. The increase in revenue over time correlates with the overall higher level of external revenue compared to the prior year.

The revenue over time included revenue from customer-specific volume production in the sum of 127,516 thousand euros (prior year: 124,529 thousand euros). In addition, sales for customer-specific individual production, services provided and arising from the Traffic Service Provision contracts were recorded recorded over time.

Revenue in the Light & Safety Division also included other revenue from embedded operating lease contracts in the sum of 10,048 thousand euros (prior year: 11,139 thousand euros).

As in the prior year, no significant revenue was recognized for performance obligations that had already been fulfilled in previous years.

4.2 Cost of sales

in thousand euros	1/1 – 31 /12/2021	1/1 – 31 /12/2020
Cost of materials	283,294	232,165
Personnel expenses	150,846	119,454
Depreciation and amortization	25,748	24,708
Other expenses	33,926	14,390
Total	**493,814**	**390,718**

In contrast to 2020 cost of sales showed an overall increase of 103,096 thousand euros or 26.4 percent to 493,814 thousand euros. These consequently rose at a stronger rate than revenue. This was primarily the result of increased material and personnel expenses.

4.3 Research and development expenses

The research and development expenses cover all expenses attributable to research and development activities. This income statement item did not include expenses paid by customers in connection with research and development services in the sum of 20,330 thousand euros (prior year: 13,484 thousand euros). These were allocated to cost of sales.

In the fiscal year just past, expenses in the sum of 4,198 thousand euros (prior year: 3,606 thousand euros) were capitalized in the intangible assets for internal development projects of the continuing operations.

in thousand euros	Light & Optics	Light & Production	Light & Safety	Other	Total
External revenue	**460,728**	**176,174**	**110,101**	**3,714**	**750,717**
	(321,395)	**(175,548)**	**(114,008)**	**(4,516)**	**(615,466)**
thereof recognized over time	160,665	94,745	40,283	3,714	299,407
	(137,901)	(88,956)	(39,469)	(4,516)	(270,842)
Thereof recognized at a point in time	300,063	81,429	69,818	0	451,310
	(183,494)	(86,592)	(74,538)	(0)	(344,624)

The figures in brackets relate to the prior year

4.4 Selling expenses

In 2021, selling expenses increased overall compared to 2020 by 12,597 thousand euros or 16.3 percent to 89,693 thousand euros. This is due to the costs of the entities acquired in 2020 which were included for the first time over a full fiscal year.

Selling expenses essentially comprised material costs, including purchased services, in the sum of 1,951 thousand euros (prior year: 4,363 thousand euros), personnel expenses in the sum of 52,454 thousand euros (prior year: 44,503 thousand euros) and depreciation in the sum of 15,499 thousand euros (prior year: 12,030 thousand euros).

4.5 General administrative expenses

In 2021, general administrative expenses reduced compared to the prior year by 392 thousand euros to 53,462 thousand euros.

General administrative expenses essentially comprised personnel expenses in the sum of 36,876 thousand euros (prior year: 36,338 thousand euros), depreciation in the sum of 4,216 thousand euros (prior year: 4,001 thousand euros) and other expenses in the sum of 5,259 thousand euros (prior year: 5,839 thousand euros).

4.6 Expenses according to types of expense

The following main types of expenses are included in revenue, selling, and administrative expenses as well as in the research and development expenses:

in thousand euros	1/1–31/12/2021	1/1–31/12/2020
Cost of materials	300,597	241,966
Personnel expenses	281,805	238,464
Depreciation and amortization	47,584	43,401
Other expenses	45,870	37,257
Total	**675,855**	**561,088**

The increase in all types of expenses is in particular the result of the increased revenue volume and the expenses for the company acquisitions of the prior year included for the whole year in 2021. The increase in depreciation and amortization resulted in particular from the intangible assets identified as part of the purchase price allocation for acquisitions.

4.7 Impairment gains and losses

The impairment gains and losses reported in this item in accordance with IFRS 9 relate to trade receivables and contract assets.

in thousand euros	1/1–31/12/2021	1/1–31/12/2020
Impairment gains	2,203	5,669
Impairment losses	3,354	1,580
Total	**–1,151**	**4,090**

In total, impairment gains and losses posted were negative. Impairment losses exceeded reversals of impairment losses on trade receivables. The markedly positive effect in the prior year was attributable to an increased focus on receivables management and the associated high one-off effect on the reversal of impairments. The on-going continuation of these measures is also reflected in a good maturity structure of receivables in 2021.

Further information on income and expenses in connection with impairments to receivables is shown in section "Financial instruments" (from page 228 on) as well as section "Current trade receivables" (from page 207 on).

4.8 Other operating income

in thousand euros	1/1/–31/12/2021	1/1/–31/12/2020
Income from adjustment of earn-out liabilities	30,509	1,567
Income from currency gains	8,554	5,555
Income from the disposal of subsidiaries and other business units	3,874	0
Income from benefits in kind	1,781	1,936
Income from services, offsets and rental	1,143	1,448
Income from government grants	1,069	1,166
Income from at-equity accounting	995	703
Income from damage claims/insurance payments	859	398
Income from reversal of impairments to intangible assets, and property, plant, and equipment	451	292
Income from the sale of intangible assets and property, plant and equipment and financial investments	219	1,563
Income from sales of materials	181	43
Others	1,112	1,831
Total	**50,747**	**16,504**

The income from the adjustment to the fair values of contingent purchase price components relates to variable purchase price components arising from the acquisition of TRIOPTICS and INTEROB. The development of the contingent purchase price components is shown in the section "Financial instruments" from page 228 on.

Income from foreign currency exchange gains mainly include gains arising from fluctuations in exchange rates between the transaction date and the payment date of receivables and payables in foreign currencies, as well as exchange rate gains arising from the valuation at the exchange rate on the reporting date.

The gain from the sale of subsidiaries and other business units results from the sale of the crystal growth business and the non-optical process metrology business for grinding machines.

Income from services, offsets, and rentals which is not derived from the normal business activity of the entities, is shown under other operating income.

Income from government grants related essentially to grants for research and development projects that Jenoptik received from the Federal Ministry for Education and Research and other federal and European institutions.

Other operating income includes, among other things, income from the operation of staff canteens.

4.9 Other operating expenses

in thousand euros	1/1/–31/12/2021	1/1/–31/12/2020
Currency losses	8,583	7,331
Transaction costs	7,383	3,611
Expenses for group projects	1,744	3,300
Other taxes	658	454
Impairment losses to intangible assets, property, plant, and equipment and investment property	460	1,733
Expenses arising from services and rentals	360	202
Losses from the sale of intangible assets and property, plant, and equipment	259	663
Reorganization and restructuring	0	9,191
Expenses arising from fair value adjustment of contingent purchase price components	0	1,091
Others	900	639
Additions to reversals of provisions	−4,038	−641
Total	**16,309**	**27,574**

Other operating expenses have reduced by 40.9 percent compared to the prior year, to 16,309 thousand euros.

The expenses incurred from foreign currency exchange losses primarily include losses from changes in currency exchange rates between the transaction date and the date of payment of receivables or payables, as well as from the valuation at the exchange rate on the reporting date. Exchange rate gains resulting from these items are recognized under other operating income. Foreign currency gains and losses in 2021 led to a net loss of 29 thousand euros (prior year: net loss of 1,776 thousand euros).

The transaction costs include, in particular, consultation costs in connection with the acquisition of BG Medical and the SwissOptic Group, as well as costs for the auditing of potential further corporate acquisitions.

Group projects mainly involve non-capitalizable expenses for the implementation of a new group-wide ERP system, as well as expenses for measures designed to increase the efficiency of Jenoptik's management processes and organization.

Impairments to intangible assets and property, plant, and equipment are primarily the result of a property write-down. The write-down was based on future realizable rental income, lower by comparison with prior years.

Expenses for reorganization and restructuring in the prior year include cost-cutting and efficiency improvement measures which were required mainly as a result of the structural shift in the automotive industry towards electro-mobility and the ongoing Covid-19 pandemic.

In the Light & Production division in particular, after the successful implementation and completion of these measures, the restructuring provisions were partially reversed since employees could be transferred to other areas of the company and lower severance costs were incurred as a result. The effects from the reversal of these restructuring provisions are included in the item addition and reversal of provisions. More information on the development of the provisions can be found in the section "Other provisions" from page 218 on.

4.10 Investment income

in thousand euros	1/1/– 31/12/2021	1/1/– 31/12/2020
Impairment gains and losses on financial investments	– 228	– 75
Income from investments	820	1,715
Total	**592**	**1,640**

Investment income reduced by 1,048 thousand euros compared to 2020, to 592 thousand euros.

The result from investments included in particular income from the disposal of listed shares and bonds that Jenoptik took over with the acquisition of TRIOPTICS.

The investment result in the fiscal year 2020 included in particular the dividend from of a real estate company.

4.11 Financial income and financial expenses

in thousand euros	1/1/– 31/12/2021	1/1/– 31/12/2020
Income from measuring financial instruments in foreign currency	4,746	3,227
Other interest and similar income	164	178
Income from reversal of impairment losses on current financial investments as well as cash and cash equivalents	62	337
Total financial income	**4,972**	**3,742**
Expenses for measuring financial instruments in foreign currency	3,296	4,600
Financing costs for syndicated loans, debenture bonds and bridge financing	4,419	2,832
Accrued interest on other provisions and liabilities	1,664	1,214
Interest expenses for leases	785	803
Custody fee on financial assets (negative interest)	244	0
Net interest expenses for pension provisions	68	57
Other interests and other financial expenses	688	1,016
Total financial expenses	**11,164**	**10,521**
Total	**−6,192**	**−6,779**

Income from the foreign currency valuation of financial transactions in the sum of 4,746 thousand euros (prior year: 3,227 thousand euros) and countervailing expenses in the sum of 3,296 thousand euros (prior year: 4,600 thousand euros) led to a net profit in fiscal year 2021 of 1,450 thousand euros (prior year: net loss of 1,373 thousand euros). This result is attributable to currency exchange gains and losses arising from the group financing.

The items financing costs for syndicated loans, debenture bonds and bridging loans include not only interest expenses but also the arrangement fees paid to the banks.

Other interests and other financial expenses include, in particular, guarantee and bank charges, as well as interest expenses for other loans and interest rate derivatives.

The net balance of financial income and financial expenses improved by 587 thousand euros or 8.7 percent to minus 6,192 thousand euros (prior year: minus 6,779 thousand euros).

4.12 Income taxes

Current income taxes (paid or owing), as well as deferred tax assets and deferred tax liabilities in the individual countries, are shown as income taxes. The current income taxes of the Jenoptik Group were calculated by applying the tax rates applicable at the balance sheet date.

The calculation of the deferred taxes for the domestic entities was based on a tax rate of 30.28 percent (prior year: 29.73 percent). In addition to the corporation tax at 15.0 percent (prior year: 15.0 percent) and the solidarity surcharge of 5.5 percent of the corporation tax charge (prior year: 5.5 percent), an effective trade tax rate of 14.46 percent (prior year: 13.91 percent) was considered. The calculation of deferred taxes for foreign entities is based on the tax rates applicable in the respective country.

Deferred taxes are recognized as either tax expenses or tax income in the income statement, unless these directly relate to items recognized outside of profit or loss in other comprehensive income. In this event, deferred taxes are also recognized outside of profit or loss in other comprehensive income.

Uncertainties regarding the treatment of income for tax purposes are subject to continuous analysis. Where there is a probability of the tax authorities not accepting uncertain income tax treatment, a reasonable sum will be set aside for risk provisioning. The amount of the risk provision shall be equal to the amount which hypothetically represents the most likely value or expected value, considering any tax uncertainties. In this context, uncertain tax situations are not considered separately but together.

Tax expenses were classified according to origin as follows:

in thousand euros	1/1/–31/12/2021	1/1/–31/12/2020
Current income tax expense		
Germany	8,607	4,965
Abroad	5,354	3,306
Total	**13,961**	**8,271**
Deferred Taxes		
Germany	−109	2,692
Abroad	−4,163	−2,740
Total	**−4,272**	**−48**
Total income taxes	**9,689**	**8,223**

The current income taxes included for 2021 an expense in the sum of 915 thousand euros (prior year: income of 307 thousand euros) for current taxes from earlier business periods. Deferred tax income include income relating to a different period in the sum of 840 thousand euros (prior year: expense 417 thousand euros).

Deferred tax income includes income resulting from the development of temporary differences in the sum of 6,315 thousand euros (prior year: expense 838 thousand euros).

As at the balance sheet date, the Jenoptik Group had the following tax losses carried forward at its disposal for offsetting against future profits:

in thousand euros	31/12/2021	31/12/2020
Corporation tax	139,532	180,839
Trade tax	292,898	340,316

The reduction in tax losses carried forward mainly resulted from their being used in the fiscal year just past. Taking into consideration all currently known positive and negative factors influencing the future tax results of the Jenoptik Group, a utilization of the corporation tax loss carried forward of 114,004 thousand euros (prior year: 157,021 thousand euros) and the use of a trade tax loss carried forward of 281,093 thousand euros (prior year: 259,049 thousand euros) is probable. A deferred tax claim of 59,407 thousand euros (prior year: 61,276 thousand euros) was recognized for these available tax losses carried forward. Of which 40,632 thousand euros (prior year: 36,019 thousand euros) was attributable to trade tax losses carried forward.

For the remaining, non-utilizable losses carried forward, no deferred tax assets were recognized for corporation tax purposes in the sum of 25,528 thousand euros (prior year: 23,818 thousand euros) and for trade tax purposes in the sum of 11,805 thousand euros (prior year: 81,267 thousand euros).

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A portion of the tax losses arried forward is subject to a time limit for carry forward purposes:

in thousand euros	31/12/2021	31/12/2020
Up to 1 year	0	112
2 to 5 years	770	1,750
6 to 9 years	4,977	2,602
More than 9 years	1,395	415
Total losses with carried forward option subject to a time limit	**7,142**	**4,879**

No deferred tax assets were shown for allowable time differences in the sum of 2,033 thousand euros (prior year: 6,646 thousand euros) as these will probably not be realized in the underlying reporting period.

The following recognized deferred tax assets and deferred tax liabilities were attributed to recognition and valuation differences in the individual items in the statement of financial position and to tax losses carried forward:

	Deferred tax assets		Deferred tax liabilities	
in thousand euros	31/12/2021	31/12/2020	31/12/2021	31/12/2020
Intangible assets	1,875	3,774	33,488	19,019
Property, plant, and equipment	829	1,047	15,905	15,326
Financial investments	743	111	1,880	1,044
Inventories	8,987	7,202	1,302	293
Receivables and other assets	2,240	1,133	6,329	6,796
Provisions	15,430	13,877	1,027	836
Liabilities	13,987	14,671	345	741
Tax losses carried forward and tax refunds	62,629	63,965	0	0
Gross value	**106,720**	**105,780**	**60,276**	**44,055**
Offset	−35,535	−31,197	−35,535	−31,197
Recognition in the statement of financial position	**71,185**	**74,583**	**24,741**	**12,858**
Value presented in statement of financial position				
Continuing operations	63,360	74,583	24,741	12,858
Discontinued operation	7,825	0	0	0

The net inventory of the asset surplus in deferred taxes reduced by 15,282 thousand euros. Taking into consideration the initial consolidations and de-consolidations (minus 17,426 thousand euros), deferred taxes recognized outside of profit or loss (minus 2,842 thousand euros), as well as the foreign currency exchange conversions (204 thousand euros) in the reporting year, this led to deferred tax income of 4,782 thousand euros shown in the income statement. Of this, deferred tax income of 4,272 thousand euros is attributable to the continuing operations. Furthermore, an asset surplus in deferred taxes in the sum of 7,825 thousand euros is allocated to the discontinued operation.

Temporary differences in the sum of 219,761 thousand euros (prior year: 155,256 thousand euros) related to shares in subsidiaries for which no deferred tax liabilities had been set aside due to IAS 12.39. Deferred tax liabilities in the sum of 249 thousand euros (prior year: 222 thousand euros) were set aside on outside basis differences in accordance with IAS 12.40.

The following table shows the tax reconciliation between the tax expense expected in the respective fiscal year and the actual tax expense recognized. To determine the anticipated tax expense, in the fiscal year 2021 the applicable group tax rate of 30.28 percent (prior year: 29.73 percent) was multiplied by the earnings before tax.

4.13 Discontinued operation

On November 25, 2021 Jenoptik signed a contract for the sale of the VINCORION division, comprising the one-hundred percent owned subsidiaries JENOPTIK Advanced Systems GmbH, JENOPTIK Power Systems GmbH as well as JENOPTIK Advanced Systems, LLC. The transaction closing date is expected in 2022. With the upcoming sale of its mechatronic activities, the Group is continuing its transformation into a focused photonics group.

With the conclusion of the binding purchase agreement, the VINCORION business segment is classified as discontinued operation and the assets and liabilities shown as held for sale.

in thousand euros	1/1–31/12/2021	1/1–31/12/2020
Earnings before tax from continuing operations	102,548	42,258
Earnings before tax from discontinued operation	− 8,230	10,977
Earnings before tax	**94,318**	**53,235**
Income tax rate for the Jenoptik Group in %	30.28	29.73
Expected tax expense	**28,560**	**15,827**
Following tax effects resulted in the difference between the actual and the expected tax expense:		
Non-deductible expenses, tax-exempt income and permanent deviations	−8,784	2,557
Change in the realizability of deferred tax assets and tax credits	−7,953	−8,064
Effects arising from differences in tax rates	−573	−534
Implications of changes in tax rates	−1,497	520
Taxes in prior years	75	110
Other tax effects	152	88
Total adjustments	**−18,580**	**−5,323**
Tax expenses according to the income statement	**9,979**	**10,504**
The breakdown of the actual income taxes is as follows:		
Income tax expense attributable to continuing operations	9,689	8,223
Income tax expense attributable to discontinued operation	290	2,281

Earnings from discontinued operation

The VINCORION result is shown as follows:

in thousand euros	1/1–31/12/2021	1/1–31/12/2020
Revenue	145,030	151,730
Expenses	130,155	139,816
EBIT	**14,875**	**11,915**
Financial expenses	−805	−938
Result of current business activities before income taxes	**14,070**	**10,977**
Income taxes	−3,090	−2,281
Earnings from operating activities after income taxes	**10,980**	**8,696**
Impairment loss arising from the revaluation at fair value less selling costs	−22,300	
Income taxes on the impairment loss arising from the revaluation at fair value less selling costs	2,800	
Earnings after tax from discontinued operation	**−8,520**	**8,696**

Intra-group transactions were completely eliminated from the financial results, with intra-group earnings from the performing business unit and the elimination of the related expenses of the receiving business unit being consolidated. As a result, the EBIT and EBITDA of the discontinued operation show an improvement of 1,088 thousand euros compared to the economic perspective (prior year: 2,048 thousand euros) and this amount is charged additionally to the continuing operations.

Earnings per share from discontinued operation (undiluted = diluted) amounted to minus 0.15 euros (prior year: 0.15 euros).

Net cash flows from discontinued operation

The net cash flows of VINCORION are as follows:

in thousand euros	1/1–31/12/2021	1/1–31/12/2020
Current business activities	29,753	20,518
Investment activities	−9,995	−8,603
Financing activities	−4,055	−3,901
Net cash flows	**15,703**	**8,014**

Assets and liabilities of the disposal group classified as held for sale

As of December 31, 2021, the following assets and liabilities of VINCORION were reported in the category "held for sale":

in thousand euros	31/12/2021
Assets	
Intangible assets	10,773
Property, plant, and equipment	32,128
Deferred taxes	7,824
Inventories	54,421
Trade receivables	39,306
Contract assets	11,395
Cash and cash equivalents	46
Other assets	883
Available-for-sale financial assets	**156,777**
Liabilities	
Financial liabilities	21,745
Pension provisions	21,189
Trade accounts payable	17,282
Contract Liabilities	8,240
Other liabilities	3,616
Other Provisions	21,541
Liabilities associated with assets held for sale	93,613
Net assets directly associated with the disposal group	**63,164**

As of December 31, 2021, the accumulated income and expenses recognized in equity totaled minus 599 thousand euros arising from currency conversion, minus 133 thousand euros from cash flow hedges.

As a result of the classification as "held for sale", an impairment loss after tax of 19,500 thousand euros was recognized in the result from discontinued operation and the carrying amount of VINCORION was therefore reduced to the fair value less selling costs.

The determination of the fair value is based on valuation parameters that are not based on observed market data (level 3). In addition to the contractually agreed purchase price, net financial debt, and an agreed working capital compensation mechanism as of the valuation date, the valuation also took into account the anticipated contingent considerations which are dependent upon certain future performance criteria.

4.14 Earnings from non-controlling interests

Earnings from non-controlling interests in the group earnings totaled 2,341 thousand euros (prior year: 963 thousand euros) and concerned the non-controlling interests in various TRIOPTICS sales companies, JENOPTIK Korea Corporation Ltd. as well as Asam Grundstücksverwaltungsgesellschaft mbH & Co Vermietungs KG. The prior year also includes the result from non-controlling interests in JENOPTIK Japan Co. Ltd. up to the acquisition of the minority shareholder's shares.

More information on the entities with non-controlling interests is available in section "Group of consolidated entities" from page 172 on.

4.15 Earnings attributable to shareholder and earnings per share

Earnings attributable to shareholders include the earnings after taxes from continuing operations and earnings after tax from discontinued operation. Earnings per share correspond to the earnings attributable to shareholders divided by the weighted average of outstanding shares.

	1/1–31/12/2021	1/1–31/12/2020
Earnings attributable to shareholders – continuing operations in thousand euros	90,518	33,073
Earnings attributable to shareholders – discontinued operation in thousand euros	−8,520	8,696
Total earnings attributable to shareholders in thousand euros	**81,998**	**41,769**
Weighted average number of outstanding shares	57,238,115	57,238,115
Earnings per share in euros (undiluted = diluted)	**1.43**	**0.73**

The earnings after tax from discontinued operation are to be allocated to the shareholders of the parent company in full. A sum of 92,859 thousand euros (prior year: 34,035 thousand euros) is to be allocated from the earnings after tax from the continuing operations in the sum of 90,518 thousand euros (prior year: 33,073 thousand euros) to the shareholders of the parent company.

The diluted and undiluted earnings per share for the discontinued operation are disclosed in the section "Discontinued operation" from page 196 on.

5 Disclosures on the Statement of Financial Position

5.1 Intangible assets

in thousand euros	Development costs arising from internal development projects	Acquired patents, trademarks, software, customer relationships	Internally generated patents	Goodwill	Other intangible assets	Total
Acquisition/production costs	**27,971**	**147,241**	**2,176**	**400,057**	**7,569**	**585,013**
Balance as of 1/1/2021	**(19,335)**	**(104,011)**	**(2,436)**	**(175,806)**	**(4,622)**	**(306,210)**
Foreign currency exchange effects	7	4,147	0	12,587	0	16,742
	(10)	(−3,154)	(0)	(−6,895)	(0)	(−10,039)
Additions through business	0	98,520	0	178,205	0	276,725
combinations	(0)	(50,705)	(0)	(231,146)	(17)	(281,868)
Additions	9,488	1,732	201	0	4,187	15,608
	(8,641)	(3,692)	(390)	(0)	(4,582)	(17,305)
Disposals	1,742	7,836	183	6,737	3	16,501
	(15)	(9,665)	(651)	(0)	(0)	(10,331)
Transfers (+/-)	0	594	0	0	−565	29
	(0)	(1,652)	(0)	(0)	(−1,652)	(0)
Reclassification according to IFRS 5	−13,202	−4,572	0	−6,124	−659	−24,558
	(0)	(0)	(0)	(0)	(0)	(0)
Acquisition/production costs	**22,522**	**239,825**	**2,194**	**577,989**	**10,529**	**853,059**
Balance as of 31/12/2021	**(27,971)**	**(147,241)**	**(2,176)**	**(400,057)**	**(7,569)**	**(585,013)**
Amortization and impairments	**13,972**	**73,132**	**940**	**9,895**	**0**	**97,938**
Balance as of 1/1/2021	**(13,748)**	**(68,769)**	**(1,061)**	**(9,895)**	**(0)**	**(93,474)**
Foreign currency exchange effects	7	1,683	0	0	0	1,691
	(10)	(−1,344)	(0)	(0)	(0)	(−1,334)
Additions	420	18,328	173	0	0	18,920
	(229)	(15,167)	(197)	(0)	(0)	(15,592)
Impairment losses	0	0	0	0	0	0
	(0)	(179)	(0)	(0)	(0)	(179)
Disposals	1,742	7,776	108	4,929	0	14,555
	(15)	(9,640)	(318)	(0)	(0)	(9,972)
Reclassification according to IFRS 5	−88	−4,096	0	0	0	−4,183
	(0)	(0)	(0)	(0)	(0)	(0)
Amortization and impairments	**12,569**	**81,272**	**1,005**	**4,966**	**0**	**99,812**
Balance as of 31/12/2021	**(13,972)**	**(73,132)**	**(940)**	**(9,895)**	**(0)**	**(97,938)**
Net carrying amount as of 31/12/2021	**9,953**	**158,554**	**1,190**	**573,022**	**10,529**	**753,247**
	(13,999)	**(74,110)**	**(1,236)**	**(390,161)**	**(7,569)**	**(487,075)**

The figures in brackets relate to the prior year

The marked increase in intangible assets resulted in particular from the acquisition of BG Medical and the SwissOptic Group. Detailed information is disclosed in the section "Entities acquired and sold" from page 175 on.

With the signing of the contract for the sale of the VINCORION division, the assets were classified as held for sale and reported separately in the statement of financial position. Changes in intangible assets after this initial classification as held for sale are not shown in the analysis of non-current assets. The development of depreciation and amortization for the fiscal year also does not include the impairment loss from the revaluation in accordance with IFRS 5. Detailed information on assets held for sale is disclosed in the section "Discontinued operation" from page 194 on.

Assets acquired in return for payment and still in development are shown as other intangible assets. Additions to these totaled 3,884 thousand euros (prior year: 4,071 thousand euros) arising from investments in the new SAP S/4HANA system which is being introduced as part of a process and data harmonization program.

The additions to development costs from internal development projects relate in particular to the divisions VINCORION (up to its initial classification as held for sale) plus Light & Optics. As of December 31, 2021, development projects not yet completed in the sum of 8,877 thousand euros (prior year: 12,374 thousand euros inclusive of 7,508 thousand euros VINCORION) were recognized under this item.

Disposals of patents, trademarks, software, and customer relationships primarily relate to intangible assets that were recorded in prior years within the context of acquisitions and are written off in full at the end of their useful life as well as disposals due to divestments.

As in the prior year, intangible assets were not subject to any significant disposal restrictions. The order commitments for intangible assets totaled 241 thousand euros (prior year: 305 thousand euros).

Other than goodwill, there were no intangible assets with an undefinable useful life.

As of December 31, 2021, the goodwill totaled 573,022 thousand euros (prior year: 390,161 thousand euros). The additions due to business combinations of the goodwill in the sum of 178,205 thousand euros were attributable to the first-time consolidation of BG Medical and the SwissOptic Group.

As part of the sale of the non-optical process metrology business for grinding machines, pro rata disposals of the goodwill of the Light & Production division were recognized (carrying amount minus 1,808 thousand euros). The additional increase in carrying amounts by 12,587 thousand euros was exclusively due to currency effects (prior year: minus 6,895 thousand euros).

As in the prior year, no impairments to goodwill were required in the fiscal year 2021.

The following table summarizes the goodwill for the cash-generating units which continued to correspond to the divisions:

in thousand euros	31/12/2021	31/12/2020
Light & Optics	443,472	259,425
Light & Production	86,730	84,395
Light & Safety	42,819	40,217
VINCORION [1]	0	6,124
Total	**573,022**	**390,161**

[1] Reclassification into assets held for sale in 2021

The impairment test for goodwill was performed at the level of the cash-generating units benefiting from the synergies of the respective corporate merger and representing the lowest level at which goodwill is monitored for internal company management. If the carrying amounts of these cash-generating units exceeded their recoverable amounts, the goodwill allocated was correspondingly reduced. The determining factor for the impairment test was the recoverable amount, i.e., the higher of the two amounts derived from the fair value less costs to sell or value in use.

Jenoptik calculated the recoverable amount in the form of the value in use, based on a discounted cash flow method. The basis for this is the five-year corporate plan approved by the management. This took past experience into consideration and was based on the management's best estimate of future development. The cash flows in the detailed planning phase were planned on the basis of differentiated growth rates. These took account of the development and dynamics of the relevant sectors and target markets.

However, against the background of the ongoing Covid-19 pandemic, there is increased uncertainty regarding the forecasts of projected cash flows. Based on past experience, the five-year corporate plan has assumed that Covid-19 will not have any further significant negative impact in 2022.

The following planning assumptions according to the structure applicable in the fiscal year 2021, were used as a basis for divisions with significant goodwill:

The Light & Optics division benefited from increasing demand in the fiscal year 2021 and was able to increase revenue in all areas compared to the prior year. Covid-19-related catch-up effects in all areas, as well as the increasing demand of the semiconductor equipment industry in the Semi & Advanced Manufacturing area, had a positive impact on the development of revenue. Both the gross margin and the EBITDA margin improved as a result of the increased revenue. In addition, TRIOPTICS made increased contributions to earnings as the company has only been part of the Light & Optics division since September 2020 and, compared to the prior year, has now been included for the entire fiscal year. The following planning assumptions were used as a basis for the Light & Optics division: The division is focusing for new revenue growth on the areas of Semi & Advanced Manufacturing, Biophotonics, Industrial Solutions as well as optical test & Measurement. Despite the increasing challenges in the procurement market for both our own and our customers' production, we expect further growth across all areas of the Light & Optics division. Both the high global demand in the semiconductor equipment industry in the Semi & Advanced Manufacturing area as well as the Optical Test & Measurement area, newly acquired in the prior year, are making a significant contribution to the division's growth. The aim of our acquisition of the BG Medical/SwissOptic Group is to exploit opportunities and synergies over the medium-term in order to provide significant support for the division's growth. The division's overall plans for significant revenue growth go hand-in-hand with a moderate increase in the EBITDA margin over the medium-term.

In the fiscal year just passed, the Light & Production division generated revenue at the same level in the prior year whilst increasing profitability through one-time effects, amongst others. Problems in the procurement market, the trend towards e-mobility, uncertainties in the automotive sector and the ongoing effects of the Covid-19 pandemic are challenges facing the division. The planning assumptions for the Light & Production division are: to achieve growth in the future, the aim will be to address additional target markets and continuously develop new products in order to serve key industries on the international level.

With an expected revival of business in North America, for example, moderate sales growth is expected in the Metrology and Laser Processing areas and significant growth in the Automation & Integration area. Due to the completed restructuring measures and higher margins for new orders, an increase in profitability is expected in the medium term.

The Light & Safety division posted a slight fall in revenue in the fiscal year 2021 and, as a result, a decline in profitability. As a result of the Covid-19 pandemic, public safety budgets were cut and projects postponed, what, in addition to problems in the procurement market led to the business development. We have drawn the following assumptions for planning in the Light & Safety division: The focus of development over the coming years will be on the increasing demand for public safety, especially in the regions of America, the Middle East/North Africa, and other European countries. As competition increases, structural and process optimizations that have been introduced will be continued, with the increase in the generation of local and international value added bringing about a sustained increase in revenue and profitability over the medium term.

The result of the respective planning year for determining the free cash flow is adjusted for non-cash expenses and income such as depreciation.

This assumes a perpetual annuity, the amount of which is individually determined for each cash-generating unit by management from the fifth year of the planning time frame. The perpetual annuity includes a growth component in the form of a deduction on the capitalization interest rate of between 0.9 and 1.0 percentage points (prior year: 0.9 and 1.0 percentage points). Non-recurring effects in the last year of the plan are eliminated prior to calculating the perpetual annuity.

The weighted average cost of capital after taxes required for the impairment tests is determined by using the capital asset pricing model for determining the cost of equity. The components for calculating the cost of equity are a risk-free interest rate, the market risk premium, a beta factor customary in our industry determined from division-specific peer groups as well as the average country risk of each cash-generating unit. Borrowing costs were determined by including a risk-free interest rate, the spread customary in our industry and the standard average tax rate. The weighted costs of equity and borrowing costs resulted from applying the capital structure customary in our industry.

Impairment testing was conducted assuming a weighted average cost of capital after taxes at a rate between 6.42 and 9.21 percent (prior year: 6.76 to 9.56 percent). This corresponded to the weighted average cost of capital before tax of between 7.96 and 12.21 percent (prior year: 8.52 to 12.61 percent).

The assumptions used to determine the values in use of the cash-generating unit are shown in the following table:

	Growth components in the perpetual annuity	Weighted cost of capital after tax	Weighted cost of capital before tax
Light & Optics	0.90	9.21	12.21
	(1.00)	(9.56)	(12.61)
Light & Production	1.00	8.36	10.72
	(1.00)	(8.17)	(10.38)
Light & Safety	0.90	6.42	7.96
	(0.90)	(6.76)	(8.52)
VINCORION	n. a.	n. a.	n. a.
	(0.90)	(6.80)	(9.63)

The figures in brackets relate to the prior year

Sensitivity analyses were conducted for all cash-generating units to which goodwill was allocated as of December 31, 2021. A reduction in the cash flows or an increase in the weighted cost of capital within the range considered by the management as possible would not result in the recoverable amount being less than the carrying amount of the cash-generating units.

5.2 Property, plant, and equipment

in thousand euros	Land, buildings,	Technical equipment and machinery	Other equipment, operating and office equipment	Equipment under construction	Total
Acquisition / production costs	**261,175**	**207,274**	**118,150**	**10,336**	**596,934**
Balance as of 1/1/2021	**(231,452)**	**(205,344)**	**(115,278)**	**(24,714)**	**(576,787)**
Foreign currency exchange effects	3,586	4,045	922	189	8,741
	(−2,816)	(−4,098)	(−693)	(−137)	(−7,743)
Additions through business combinations	17,926	13,539	2,443	268	34,176
	(20,625)	(2,996)	(2,961)	(311)	(26,893)
Additions	6,041	14,753	9,067	14,160	44,020
	(5,901)	(9,724)	(7,718)	(6,604)	(29,947)
Disposals	2,997	19,134	15,765	4	37,899
	(6,715)	(14,053)	(8,020)	(160)	(28,948)
Transfers (+/-)	767	3,953	597	−5,413	−97
	(12,728)	(7,361)	(905)	(−20,996)	(−2)
Reclassification according to IFRS 5	−48,028	−36,480	−20,109	−1,112	−105,729
	(0)	(0)	(0)	(0)	(0)
Acquisition / production costs	**238,469**	**187,949**	**95,304**	**18,424**	**540,146**
Balance as of 31/12/2021	**(261,175)**	**(207,274)**	**(118,150)**	**(10,336)**	**(596,934)**
Depreciation and amortization	**91,531**	**152,490**	**89,415**	**0**	**333,436**
Balance as of 1/1/2021	**(83,184)**	**(154,909)**	**(87,571)**	**(0)**	**(325,664)**
Foreign currency exchange effects	1,032	2,807	564	0	4,403
	(−613)	(−2,898)	(−387)	(0)	(−3,897)
Additions	13,450	12,290	9,432	0	35,172
	(12,664)	(13,156)	(9,378)	(0)	(35,198)
Impairment losses	0	3	6	0	10
	(1,138)	(353)	(59)	(0)	(1,550)
Impairment reversal	−451	0	0	0	−451
	(−205)	(−40)	(−43)	(0)	(−288)
Disposals	2.347	19,009	15,121	0	36,477
	(4,639)	(12,990)	(7,161)	(0)	(24,790)
Transfers (+/-)	−70	2	0	0	−68
	(0)	(0)	(−2)	(0)	(−2)
Reclassification according to IFRS 5	−21,008	−26,460	−15,065	0	−62,533
	(0)	(0)	(0)	(0)	(0)
Depreciation and amortization	**82,136**	**122,123**	**69,232**	**0**	**273,491**
Balance as of 12/31/2021	**(91,531)**	**(152,490)**	**(89,415)**	**(0)**	**(333,436)**
Net carrying amount as of 31/12/2021	**156,334**	**65,826**	**26,073**	**18,424**	**266,656**
	(169,644)	**(54,784)**	**(28,734)**	**(10,336)**	**(263,499)**

The figures in brackets relate to the prior year

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In addition to the investments made, the increase in property, plant, and equipment was mainly attributable to the first-time consolidation of BG Medical and the SwissOptic Group.

Detailed information is disclosed in the section “Entities acquired and sold” from page 175 on.

The assets of the VINCORION division were classified as “held for sale” and recognized separately in the statement of financial position. Changes in property, plant, and equipment after this initial classification as held for sale, are not shown in the analysis of non-current assets. Similarly, the development of depreciation and amortization for the fiscal year does not include the impairment loss from the revaluation in accordance with IFRS 5. Detailed information on assets held for sale is disclosed in the chapter “Discontinued operation” from page 194 on.

Land and buildings of the Group with a net book value of 156,334 thousand euros (prior year: 169,644 thousand euros) mainly comprised the Group’s own production and administrative buildings in Jena, Wedel, Bayeux (France), Heerbrugg (Switzerland), Huntsville (USA), Shanghai (China) and Rochester Hills (USA) as well as the leased production and administrative buildings in Berlin, Monheim, and Camberley (UK).

Order commitments for property, plant, and equipment in the sum of 30,049 thousand euros have increased significantly compared with the prior year (prior year: 17,037 thousand euros) and primarily resulted in replacement and new investment in technical equipment and machinery.

As of the balance sheet date, no property, plant and equipment were pledged as of December 31, 2020.

5.3 Investment property

in thousand euros	Investment property
Acquisition/production costs Balance as of 1/1/2021	**10,495 (10,495)**
Transfers	70 (0)
Acquisition/production costs Balance as of 31/12/2021	**10,566 (10,495)**
Depreciation Balance as of 01/01/2021	**6,321 (6,232)**
Additions	87 (89)
Impairment losses	450 (0)
Transfers	70 (0)
Depreciation Balance as of 31/12/2021	**6,928 (6,321)**
Net carrying amount as of 31/12/2021	**3,638 (4,175)**

The figures in brackets relate to the prior year

The investment property as of December 31, 2021 primarily encompassed property in the Jena-Göschwitz Industrial Park.

The fair values totaled 3,832 thousand euros (prior year: 4,549 thousand euros). These were determined internally within the company based on a discounted cash flow method. In this context, the net rents without utilities as well as the maintenance and other costs are estimated for the entire remaining useful lives of the properties and discounted over the remaining useful lives. Risk-adjusted interest rates are applied as the discount rate. As a result of the use of non-observable parameters such as interest rates, rents without utilities, as well as maintenance and ancillary expenses, the level 3 fair value in the hierarchy of fair values is assigned.

For 2021, rental income from investment property as of the end of the fiscal year amounted to 518 thousand euros (prior year: 552 thousand euros).

In fiscal year 2021, the direct operating expenses for property and movables accounted for at the end of the year for rented space totaled 126 thousand euros (prior year: 175 thousand euros) and for non-rented space 26 thousand euros (prior year: 32 thousand euros).

5.4 Leasing

The Group as lessee. The Group has concluded leasing contracts for real estate, technical equipment and machinery and other equipment, motor vehicles and for operating and business equipment.

The rights of use are shown in the statement of financial position under property, plant, and equipment, in which the underlying assets would be presented if they were the property of the Group. A separate presentation of the rights of use as of January 1, 2021 and December 31, 2021, as well as additions and depreciation in the 2021 fiscal year, can be found in the following table.

Additions due to business combinations are the result of the inclusion of BG Medical and the SwissOptic Group. Reclassifications in accordance with IFRS 5 are the result of VINCORION's assets being classified as held for sale. Changes in right-of-use assets after initial classification as held for sale, including impairment losses as a result of remeasurement in accordance with IFRS 5, are not shown.

in thousand euros	Rights of use to land, buildings,	Rights of use to technical equipment and machinery	Rights of use to other equipment, operating and business equipment	Total rights of use
Acquisition/production costs, balance as of 1/1/2021	**58,041** **(54,922)**	**10,277** **(5,365)**	**8,132** **(7,203)**	**76,450** **(67,490)**
Foreign currency exchange effects	1,395 (−1,060)	102 (−28)	94 (−85)	1,590 (−1,174)
Additions through business combinations	293 (2,541)	5,508 (87)	0 (400)	5,802 (3,028)
Additions	4,365 (3,511)	4,686 (2,409)	1,904 (2,105)	10,956 (8,025)
Disposals	2,330 (1,872)	0 (0)	2,465 (1,505)	4,795 (3,376)
Transfers (+/-)	0 (0)	0 (2,443)	−20 (14)	−20 (2,457)
Reclassifications in accordance with IFRS 5 (+/-)	−27,461 (0)	−44 (0)	−579 (0)	−28,084 (0)
Acquisition/production costs, balance as of 31/12/2021	**34,304** **(58,041)**	**20,529** **(10,277)**	**7,066** **(8,132)**	**61,900** **(76,450)**
Depreciation, balance as of 1/1/2021	**15,271** **(7,770)**	**2,024** **(1,021)**	**3,828** **(2,330)**	**21,124** **(11,121)**
Foreign currency exchange effects	460 (−237)	52 (−12)	58 (−45)	570 (−294)
Additions	8,255 (8,066)	1,625 (1,015)	2,476 (2,784)	12,355 (11,866)
Impairment losses	0 (259)	0 (0)	0 (27)	0 (286)
Impairment gains	0 (−205)	0 (0)	0 (0)	0 (−205)
Disposals	1,688 (383)	0 0	2,198 (1,267)	3,886 (1,650)
Transfers (+/-)	0 (0)	0 (0)	−17 (0)	−17 (0)
Reclassifications in accordance with IFRS 5 (+/-)	−8,573 (0)	−19 (0)	−296 (0)	−8,887 (0)
Depreciation, balance as of 31/12/2021	**13,724** **(15,271)**	**3,683** **(2,024)**	**3,852** **(3,828)**	**21,258** **(21,124)**
Net carrying amount as of 31/12/2021	**20,581** **(42,770)**	**16,847** **(8,253)**	**3,214** **(4,303)**	**40,642** **(55,326)**

The figures in brackets relate to the prior year

Lease liabilities are shown in the statement of financial position under "Non-current financial debt" or "Current financial debt" and can be taken from the following table (prior year including lease liabilities of VINCORION):

in thousand euros	31/12/2021	31/12/2020
Non-current lease liabilities	27,528	47,726
Current lease liabilities	11,418	12,306

Interest expenses of the continuing operations for leases in the fiscal year 2021 totaled 785 thousand euros (prior year: 803 thousand euros).

In addition to depreciation and interest expenses, the following expenses of continuing operations were recognized through profit or loss:

Expenses for lease contracts (in thousand euros)	1/1–31/12/2021	1/1–31/12/2020
from short-term lease agreements	972	507
from low-value lease contracts	1,605	1,190
from variable lease payments	1,033	964
Total lease expenses	**3,609**	**2,662**

The variable lease payments mainly include payments for non-leasing components of lease contracts that have been accounted for in accordance with IFRS 16.

Liabilities arising from fixed lease payments are listed according to their maturity in the table below (prior year including lease liabilities of VINCORION):

Liabilities from fixed lease payments (in thousand euros)	31/12/2021	31/12/2020
Up to 1 year	12,373	14,188
1 to 5 years	23,929	35,323
More than 5 years	5,119	15,745
Total	**41,421**	**65,256**

Renewal and termination options included in the leases are negotiated by management. The assessment as to whether there is sufficient certainty regarding the exercise of these extension and termination options has been assessed and evaluated accordingly by the management.

The non-discounted potential future lease payments for periods after the exercise date for extension and termination options, not included in the term of the lease, totaled 6,191 thousand euros (prior year: 5,706 thousand euros) as of the balance sheet date.

Further details (in thousand euros)	31/12/2021	31/12/2020
Payment obligations for short-term lease contracts	394	415
Potential cash outflows arising from extension and termination options which were not shown in the statement of financial position	6,191	5,706

In the fiscal year 2021, the total cash outflow arising from leasing contracts of the continuing operations (including current and low-value lease contracts as well as variable lease payments) with interest portion totaled 14,731 thousand euros (prior year: 12,554 thousand euros, adjusted without VINCORION).

In the fiscal year 2021, income from subletting of legal assets for the use of fixed assets amounted to 181 thousand euros (prior year: 173 thousand euros).

The Group as lessor. Leases will continue to be classified as operating or finance leases.

The anticipated deposits arising from minimum lease payments of continuing operations are listed in the tables below according to their maturity:

Finance leases

Anticipated deposits arising from fixed lease payments (in thousand euros)	31/12/2021	31/12/2020
Up to 1 year	57	137
1 to 2 years	0	57

Operating leases

Anticipated deposits arising from fixed lease payments (in thousand euros)	31/12/2021	31/12/2020
Up to 1 year	1,588	1,444
1 to 2 years	329	1,048
2 to 3 years	173	704
3 to 4 years	109	77
4 to 5 years	7	48
More than 5 years	5	48

Lease agreements without a termination date were only recorded in the amount of the rental income up to the earliest possible date of termination. The probability of a continuation of the lease or of granting extensions to the lease agreements, was not included in the calculation.

5.5 Investments accounted for in accordance with the at-equity method

The following entities were included in the consolidated financial statements as associate companies or as joint ventures, in accordance with the at-equity method:

TELSTAR-HOMMEL CORPORATION, Ltd., Pyeongtaek, Korea

The company was a long-standing partner for Jenoptik in the Korean market and sourced components, amongst other things, from the Light & Production division. There are currently no longer any significant delivery and service relationships with Jenoptik.

HILLOS GmbH, Jena, Germany

The company, which specializes in the production of laser measurement, ranging and positioning equipment, is a supplier to the Light & Optics and Light & Safety divisions, amongst others.

TRIOPTICS France S.A.R.L., Villeurbane, France

The joint venture, acquired as part of the acquisition of Trioptics GmbH, is an integral part of the TRIOPTICS international sales network. In addition to TRIOPTICS' product range, the company has concluded several partnership arrangements with European and American entities in order to offer further product solutions in the optical sector.

The following table contains summarized financial information on the companies. The share of the companies' profit due to Jenoptik is shown under other operating income. The shares in the total other comprehensive income recognized in the current year are based on the preliminary annual financial statements of the companies. Deviations between the preliminary and final annual financial statements are taken into account in the subsequent year.

	TELSTAR-HOMMEL Corporation, Ltd.		HILLOS GmbH		Trioptics France S.A.R.L.	
in thousand euros	2021	2020[2]	2021	2020	2021	2020[2]
Disclosures on the income statement						
Revenue	13,665	27,618	48,749	40,912	3,760	2,329
Profit/loss arising from continued activities	−765	1,124	1,604	1,401	38	−186
Other comprehensive income	−230	−197	0	0	0	0
Total other comprehensive income	−995	927	1,604	1,401	38	−186
Amount of the share	33.33 %	33.33 %	50.00 %	50.00 %	50.00 %	50.00 %
Group share of total other comprehensive income	**−332**	**309**	**802**	**701**	**19**	**−93**
Disclosures on the statement of financial position and reconciliation to the at-equity carrying amount						
Non-current assets	12,989	18,656	1,251	1,584	28	25
Current assets	15,395	17,173	20,633	20,260	1,393	1,194
Non-current liabilities	10,090	2,459	263	138	18	116
Current liabilities	940	15,113	4,795	6,480	1,145	882
Equity	17,354	18,257	16,825	15,225	259	221
Amount of the share	33.33 %	33.33 %	50.00 %	50.00 %	50.00 %	50.00 %
Proportional equity = at-equity carrying amount	**5,784**	**6,085**	**8,413**	**7,613**	**129**	**111**

[1] The details for TRIOPTICS France S.A.R.L. In the year 2020 relate to the calendar year. The company was included using the equity method from the date of acquisition
[2] Financial information adjusted to the company's final annul financial statements

5.6 Financial investments

in TEUR	31/12/2021	31/12/2020
Shares in non-consolidated associates	502	347
Investments	499	494
Loans to non-consolidated associates and investments	10	10
Other loans	1,975	2,074
Total	**2,987**	**2,926**

Other loans are mainly derived from an escrow account which will be paid out at the end of a pending dispute over construction defects.

The table below reflects the changes in the impairments to financial investments:

in thousand euros	2021	2020
Impairments as of 1/1	**8,332**	**8,163**
Additions	37	17
Currencies	−1	0
Transfer	0	152
Impairments as of 31/12	**8,368**	**8,332**

5.7 Other non-current assets

Other non-current assets include both financial assets as well as non-financial assets.

Other non-current financial assets include the following:

in thousand euros	31/12/2021	31/12/2020
Derivatives	2,978	626
Reinsurance cover	85	85
Receivables from lease contracts	0	57
Other non-current financial assets	1,970	1,817
Total	**5,034**	**2,585**

Other non-current financial assets essentially include claims arising from insurance contracts of a TRIOPTICS entity.

As in the prior year, there were no restrictions on disposals of other non-current financial assets.

The aggregated item derivatives are explained in greater detail in section "Financial instruments" from page 228 on.

Other non-current, non-financial assets in the sum of 1,519 thousand euros (prior year: 690 thousand euros) mainly included non-current accruals, amongst others, fees for the existing syndicated loan financing.

5.8 Deferred taxes

The development of deferred taxes is shown as an item under section 4.12 from page 193 on.

5.9 Inventories

in thousand euros	31/12/2021	31/12/2020
Raw materials, consumables and supplies	80,655	80,336
Unfinished products, unfinished services	86,840	79,076
Finished products and goods	30,285	29,659
Deposits paid for inventories	2,433	2,335
Total	**200,213**	**191,406**

The prior year's figures include VINCORION's inventories in the sum of 56,911 thousand euros. As of December 31, 2021, the inventories are shown as "held for sale".

As of the end of the fiscal year 2021, accumulated impairment losses in the sum of 38,552 thousand euros (prior year: 46,182 thousand euros, inclusive of VINCORION) were considered in the carrying amount. The net sale value of these inventories was 63,126 thousand euros (prior year: 35,142 thousand euros, inclusive of VINCORION).

The change in impairments to continuing operations developed as follows:

in thousand euros	31/12/2021	31/12/2020
Impairment losses in inventories	−12,885	−7,245
Reversal of impairment losses to inventories	7,390	2,190
Overall change arising from additions and reversals	**−5,495**	**−5,054**

The reversals of impairment losses are the result, in particular, of the termination of ranges and marketability in the Light & Optics division as the reason for the impairment loss carried out in prior years, no longer applies.

The consumption of inventories affected expenses of continuing operations in the fiscal year in the sum of 234,338 thousand euros (prior year: 186,482 thousand euros), with the table below showing the distribution:

in thousand euros	31/12/2021	31/12/2020
Cost of sales	231,992	184,388
Research and development expenses	1,783	1,582
Selling expenses	175	273
Administrative expenses	388	239
Total	**234,338**	**186,482**

As in the prior year, there were no restrictions on the disposal of inventories on the reporting dates.

5.10 Current trade receivables

Trade receivables

in thousand euros	31/12/2021	31/12/2020
Trade receivables from third parties	110,766	132,456
Receivables from due requested advance payments	9,398	5,277
Trade receivables due from non-consolidated associates and investments	310	277
Total	**120,475**	**138,010**

The prior year's figures include the trade receivables of VINCORION in the sum of 43,294 thousand euros. As of December 31, 2021, these receivables are shown as "held for sale".

The fair values of trade receivables correspond to their carrying amounts as of the reporting date. Trade receivables are not interest-bearing and generally have a due date of 30 to 60 days.

The table below shows the composition of the trade receivables:

in thousand euros	31/12/2021	31/12/2020
Gross value of trade receivables due from third parties	117,516	138,487
Receivables from due requested advance payments	9,398	5,277
Gross value of trade receivables due from non-consolidated associates and investments	310	277
Total gross value of trade receivables	**127,225**	**144,041**
Cumulative impairments	−6,750	−6,031
Carrying amount of trade receivables	**120,475**	**138,010**

Default risks were determined through the assessment of clients' creditworthiness by means of a scorecard, taking into account specific regional and individual company characteristics. In addition to internal company data, this includes credit assessments through external credit agencies. Based on the rating of customers' creditworthiness, lines of credit are granted to ensure the active management of business transactions. This means for example, amongst other things, that certain payment methods can be agreed with customers depending on their creditworthiness. In addition, outstanding claims against customers are regularly monitored and measures taken to reduce overdue claims.

The default risk is taken into account through individual impairments and flat-rate individual impairments. The following table shows the changes in impairments to outstanding trade receivables:

in thousand euros	2021	2020
Impairments as of 1/1	**6,031**	**8,704**
Additions	3,400	1,865
Reversal/derecognition	2,407	5,814
Consumption	581	572
Changes in the group of consolidated entities	369	2,030
Currencies	210	−182
Reclassification in accordance with IFRS 5	−272	0
Impairments as of 31/12	**6,750**	**6,031**

The impairment requirement is analyzed at each closing date in order to determine the anticipated loan losses. If there are any objective indications of impairment losses, an individual impairment is applied. In addition, flat-rate individual impairments for receivables grouped into categories are recognized in days, based on the overdue period. Finally, a flat-rate impairment is created to consider the existing default risk for receivables not yet due and for which no impairment has been created.

As a result of developments arising from the impact of Covid-19, additional individualized valuation adjustments (post-model adjustments) are made in addition to the system-side assessment routines for determining the anticipated default risk. The valuation takes into account, in particular, geographic location, industry, support measures from public institutions as well as individual agreements with the respective customers.

The amount of the impairment to trade receivables due from third parties totaled 6,750 thousand euros (prior year: 6,031 thousand euros).

As in the prior year, as of December 31, 2021 there were no sureties for unimpaired receivables in the form of bank guarantees.

The table below shows the default risk position for trade receivables due from third parties with the help of an impairment matrix (prior year including VINCORION):

in thousand euros	Expected credit loss rate	Expected total gross carrying amount at default	Expected credit loss
not due	0.58 %	88,325	510
	(0.44 %)	(95,645)	(421)
overdue < 30 days	1.84 %	12,989	239
	(0.62 %)	(17,189)	(107)
overdue 30 – 60 days	6.95 %	5,741	399
	(3.90 %)	(8,988)	(350)
overdue 61 – 120 days	29.15 %	4,281	1,248
	(16.11 %)	(4,326)	(697)
overdue 121 – 240 days	26.96 %	1,954	527
	(13.45 %)	(2,727)	(367)
overdue 241 – 360 days	76.36 %	1,039	793
	(15.65 %)	(4,370)	(684)
overdue > 360 days	95.21 %	3,187	3,035
	(64.98 %)	(5,242)	(3,406)
Total	**5.74 %**	**117,516**	**6,750**
	(4.36 %)	**(138,487)**	**(6,031)**

Values in brackets relate to the prior year

Since receivables management has been intensified or optimized since 2020, a balanced maturity structure of receivables was achieved in 2021.

The higher, anticipated credit default rate in 2021 is due in particular to the classification of VINCORION's receivables as "held for sale". The low level of impairments at VINCORION compared to receivables was attributable to low credit default rates due to contracts with public sector customers. At 5.74 percent, the credit default rate in 2021 was roughly the same as the prior year's level adjusted for VINCORION (5.9 percent).

In the fiscal year 2021 the context-related individual impairments to receivables totaled 1,480 thousand euros (prior year: 2,100 thousand euros). These primarily related to receivables with an overdue date of more than 360 days.

Factoring

As a result of extended payment deadlines for customers, inputs for customer-specific projects and changes in billing modalities, Jenoptik has been utilizing factoring since the fiscal year 2019. Within the framework of a genuine and confidential factoring program, existing receivables are sold to a factoring company (hereafter referred to as the "Factor") – together with the transfer of the default or del credere risk – in return for a consideration. The payments from the original customer to the Group shown as income (due to their confidential nature) are classified as "other current financial liabilities" and then forwarded to the Factor.

In the statement of financial position, sold trade receivables are derecognized on transfer of the economic ownership to the Factor in accordance with IFRS 9 and, until receipt of payment, are recognized as receivables due from the Factor under the item "Other current financial assets". The asset is finally derecognized on payment by the Factor.

Factoring charges are shown in the consolidated income statement, under administrative expenses.

In the cash flow statement, the Factor's payments to the Group are shown under cash flows from operating activities. The payment received from the original customer and the subsequent payment as a result of the transfer to the Factor, are recognized net under cash flows from financing activities.

As of December 31, 2021, receivables to the value of 20,796 thousand euros (prior year: 18,355 thousand euros) were sold within the framework of the confidential factoring. After allowing for a surety retention by the Factor of 5 percent, payment receipts totaled 19,756 thousand euros (prior year: 17,437 thousand euros). The security deposit is reported under other current financial assets.

In addition, there was open factoring of receivables held for sale in the VINCORION division worth 3,233 thousand euros (prior year: 4,738 thousand euros).

5.11 Contract assets

The statement of financial position item includes conditional claims of the Group against customers for the receipt of a consideration in return, in exchange for goods or services that have already been transferred. These are grouped as follows:

in thousand euros	31/12/2021	31/12/2020
Contract assets	**81,414**	**74,735**
Realization within one year	78,398	68,685
Realization within more than one year	3,016	6,049

The prior-year figures include VINCORION contract assets of 11,369 thousand euros. As of December 31, 2021, these contract assets are reported as held for sale.

The default risk of contract assets is fundamentally taken into account through corresponding impairments. As of December 31, 2021, there were no indicators for an individual impairment identified. The general default risk was taken into account through an impairment loss in the amount of the anticipated loss. The impairment loss was in the sum of 123 thousand euros (prior year: 112 thousand euros).

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5.12 Other current financial assets

in thousand euros	31/12/2021	31/12/2020
Receivables arising from contingent considerations	13,347	0
Receivables from acquisitions	3,818	0
Receivable arising from surety retention for factoring	1,032	901
Indemnification claims arising from business combinations	396	1,010
Other receivables due from non-consolidated associates and investments	115	0
Derivatives	68	1,622
Receivables due from pension trust associations (Treuhandvereine)	35	1,950
Other current financial assets	770	1,008
Total	**19,582**	**6,492**

The prior year's figures include other current financial assets of VINCORION in the amount of 2,788 thousand euros. As of December 31, 2021, these assets are reported as "held for sale".

As in the prior year, in there were no restrictions on disposals of other current financial assets 2021.

The receivables from contingent consideration result from a sales-based bonus/malus arrangement agreed as part of the acquisition of TRIOPTICS, which was measured at fair value (see section "Financial instruments" from page 228 on).

Receivables from acquisitions include an adjustment of the purchase price from the acquisition of BG Medical and the Swiss-Optic Group based on the preliminary closing accounts at the time of acquisition. The final purchase price will be determined by finalizing the closing accounts in the fiscal year 2022.

Default risks are taken into account through impairments. Due to a retention on the purchase price for the remaining 25 percent of the shares in TRIOPTICS, as well as the collaterals deposited in notarial escrow accounts, there are no credit-related default risks within the meaning of IFRS 9 for the receivables due from conditional considerations.

The composition of the carrying amount of other current financial assets is as follows:

in thousand euros	31/12/2021	31/12/2020
Gross value of other financial assets	20,335	7,780
Accumulated impairment loss	−753	−1,288
Carrying amount of other financial assets as of 12/31	**19,582**	**6,492**

5.13 Other current non-financial assets

in thousand euros	31/12/2021	31/12/2020
Accruals	5,711	4,678
Receivables from other taxes	4,313	2,721
Receivables from income taxes	605	674
Receivables from grants, short-time working and subsidies	262	2,462
Other current non-financial assets	549	423
Total	**11,439**	**10,958**

The prior year's figures include other current non-financial assets of VINCORION in the amount of 657 thousand euros. As of December 31, 2021, these assets are reported as "held for sale".

As in the prior year, in 2021 there were no restrictions on disposals of other current non-financial assets.

5.14 Current financial investments

in thousand euros	31/12/2021	31/12/2020
Fair value	1,555	4,894

The current financial investments are a six-month bank deposit of a TRIOPTICS company that was not classified as cash and cash equivalents due to its maturity.

The current financial investments accounted for in the prior year, which mainly consisted of listed shares and bonds, were sold in the 2021 fiscal year. The fair value was determined on the basis of the stock market prices on the qualifying date. Changes in fair value between acquisition and balance sheet date, likewise the gain or loss arising from the sale, were recognized in the financial result through profit or loss.

For further information on the financial instruments we refer to the corresponding section in the Notes from page 228 on.

5.15 Cash and cash equivalents

in thousand euros	31/12/2021	31/12/2020
Checks, cash on hand, bank balances and demand deposits or deposits with a maturity of < 3 months	54,817	63,405

For information on the change in cash we refer to the section entitled "Details on the Cash Flow Statement" from page 223 on. In addition, in application of IFRS 9, an impairment of 122 thousand euros (prior year: 78 thousand euros) was recorded on the bank deposits in fiscal 2021 as provision for a default risk.

5.16 Equity

The development of the equity of Jenoptik is shown in the consolidated statement of changes in equity.

Share Capital

Share capital amounts to 148,819 thousand euros and is divided into 57,238,115 no-par value registered shares.

At the beginning of July 2011 Thüringer Industriebeteiligungs GmbH & Co. KG, Erfurt, Thüringer Industriebeteiligungsgeschäftsführungs GmbH, Erfurt, bm-t beteiligungsmanagement thüringen GmbH, Erfurt, Stiftung für Unternehmensbeteiligungen und -förderungen in der gewerblichen Wirtschaft Thüringens (StUWT), Erfurt, Thüringer Aufbaubank Erfurt and the Free State of Thüringia, Erfurt, disclosed that they had exceeded the thresholds of 3, 5, and 10 percent of the voting rights in JENOPTIK AG on June 30, 2011, and that they had held 11.00 percent of the voting rights (6,296,193 voting rights) on that day. Thüringer Industriebeteiligungs GmbH & Co. KG acquired the voting rights from ECE Industriebeteiligungen GmbH.

On March 6, 2020, Allianz Global Investors GmbH, Frankfurt am Main, Germany, notified us it had exceeded the threshold of 10 percent of the voting rights in JENOPTIK AG on March 5, 2020. Accordingly, on that day Allianz Global Investors GmbH held 10.11 percent of the voting rights (5,788,418 voting rights) as attributed to it in accordance with § 34 (1) (No. 6) of the WpHG. Allianz Asset Management GmbH and Allianz SE also hold an indirect stake via Allianz Global Investors GmbH.

On March 5, 2020, Allianz SE informed us, with a voluntary Group notification with triggered threshold, that it had exceeded the threshold of 5 percent of the voting rights in JENOPTIK AG on March 2, 2020. Accordingly, on that day Allianz SE indirectly held 5.40 percent of the voting rights (3,092,867 voting rights) as attributed to it in accordance with § 34 (1) (No. 1) of the WpHG. All holdings included in this notification are managed by Allianz Global Investors GmbH .

On April 3, 2020, DWS Investment GmbH, Frankfurt am Main, Germany, notified us it had fallen below the threshold of 10 percent of the voting rights in JENOPTIK AG on April 2, 2020. Accordingly, on that day DWS Investment GmbH held 9.82 percent of the voting rights (5,620,671 voting rights) indirectly in accordance with § 34 WpHG.

The Ministry of Finance, Oslo, Norway, notified us on October 28, 2020 on behalf of the Norwegian state that although it had continued to exceed the threshold of 3 percent of the voting rights in JENOPTIK AG on October 27, 2020, this was below the number of indirectly held voting rights in accordance with § 34 WpHG. Accordingly, the Ministry of Finance held 3.55 percent of the voting rights (2,033,454 voting rights) on that day. Of this, 2.94 percent of the voting rights (1,682,311) were held by it indirectly in accordance with § 34 WpHG and 0.61 percent of the voting rights (351,143 voting rights) as instruments via stock borrowing in accordance with § 38 (1), (No. 1) WpHG. The voting rights are held directly by the Norges Bank, Oslo, Norway.

BlackRock, Inc., Wilmington, USA, notified us on September 21, 2021 that it had exceeded the threshold of 3 percent of the voting rights in JENOPTIK AG, Jena, Germany, on September 16, 2021. Accordingly, BlackRock, Inc., held 3.04 percent of the voting rights (1,739,603 voting rights) on that day. 2.99 percent of the voting rights (1,709,244 voting rights) were attributable to BlackRock, Inc. indirectly in accordance with § 34 of the WpHG. 0.05 percent of the voting rights (30,359 voting rights) were attributable to instruments in accordance with § 38 (1), (No. 1) WpHG.

The voting right notifications of recent years and the notifications of shareholders that had closed out their investments, are also published on our Internet site www.jenoptik.com under Investors/Share/Voting rights announcements.

Authorized capital

An "Authorized Capital 2019" was created with the resolution passed by the Annual General Meeting on Wednesday, June 12, 2019 as follows: The Executive Board is authorized through June 11, 2024, with the consent of the Supervisory Board, to increase the nominal capital of the company by up to 44,000 thousand euros through one or multiple issues of new, no-par value registered shares against cash and/or property, plant, and equipment ("Authorized Capital 2019"). The new shares can be taken up by one or more banks with the obligation to offer these to shareholders (indirect subscription rights). With the consent of the Supervisory Board, the Executive Board is authorized to preclude subscription rights for shareholders in certain cases: a) fractional amounts; b) capital increases against contributions in-kind in particular also within the framework of business combinations or the acquisition of companies, units of companies or investments in companies (including increasing existing investments) or other contributable assets in conjunction with such an intended acquisition as well as claims against the entity; c) capital increases against cash contributions, under the condition that the percentage of any new shares in the share capital does not in total exceed 10 percent of the share capital at the time the authorized shares are registered or in total 10 percent of the share capital at the time the new shares are issued, taking into consideration resolutions of the AGM or the use of other authorizations to preclude subscription rights in a direct or corresponding application of § 186 (3) (4) AktG [German Stock Corporation Act] since the effective date of this authorization and the issuance price of the new shares is not to be significantly lower than the stock market price; d) issuances of new shares to employees of the entity and to associates in which the entity holds a majority interest.

All aforementioned authorizations to exclude subscription rights are limited to a total of 10 percent of the share capital available at the time this authorization became effective – or, if this value is lower - to 10 percent of the share capital at the time this authorization is exercised. This limit of 10 percent includes shares that (i) are were or could still be issued for the purpose of servicing warrants and/or convertibles during the period of validity of authorized capital to the exclusion of subscription rights or (ii) are sold by the entity as treasury shares during the period of validity of authorized capital to the exclusion of subscription rights.

Decisions on the details of the issuance of new shares, in particular their conditions and the content of rights of the new shares, are taken by the Executive Board, with the consent of the Supervisory Board. The Authorized Capital 2019 has not yet been utilized.

Conditional Capital

The shareholder resolution passed at the Annual General Meeting (AGM) held on June 9, 2021, to contingently raise the share capital of the entity by up to 14,950 thousand euros through the issue of up to 5,750,000 new no-par value shares ("Conditional Capital 2021"). The conditional capital increase will be implemented only to the extent that

- creditors or holders of option and/or conversion rights arising from option and/or convertible bonds issued by the entity, or by a domestic and/or foreign corporation in which the entity either directly or indirectly holds a majority interest, make use of their option or conversion rights by June 8, 2026 as resolved by the shareholders in their Annual General Meeting resolution dated June 9, 2021, and/or
- the creditors of the issued convertible bonds obliged to exercise their conversion rights issued by the company or a domestic or foreign company in which the company has a direct or indirect majority stake, on the basis of the resolution of the Annual General Meeting on June 9, 2021, fulfill their conversion rights by June 8, 2026 and / or the shares are repatriated

and neither treasury shares are used nor payment is made in cash. The new shares participate in profits from the start of the fiscal year for which, on the date of their issue, no resolution has yet been passed by the Annual General Meeting in respect of the appropriation of the accumulated profit. To the extent legally permissible, the Executive Board may, with the consent of the Supervisory Board, determine the profit participation in deviation from this and also from Section 60 (2) AktG, including for a fiscal year that has already passed.

The Executive Board is authorized, with the consent of the Supervisory Board, to exclude the subscription rights of shareholders to the bonds under certain circumstances. Authorization to exclude subscription rights is limited in the sense that the pro rata amount of share capital corresponding to those shares that must be issued after exercising warrant and/or conversion rights/obligations may not account for more than 10 percent of the share capital existing at the time this authorization takes effect or – if the figure is lower – at the time use is made of the authorization. This 10 percent limit also applies to the sale of treasury shares that are excluded from subscription rights during the period of this authorization, and to shares issued during the period of this authorization under authorized capital and for which subscription rights are excluded.

The Executive Board is authorized to set out the further details relating to the increase in conditional capital (e.g. terms of the bonds, interest rate, form of interest, specific period, denomination, issue price, option/conversion price, option/conversion period) in the bond terms and conditions. The Conditional Capital 2021 has not yet been utilized.

Reserves

Capital reserve. The capital reserve contains the adjustments recognized within the framework of the first-time adoption of IFRS as well as the differences resulting from the capital consolidation being offset against reserves up to December 31, 2002.

Other reserves. A component of other reserves is retained earnings realized in the past by companies included in the consolidated financial statements less dividends paid.

Other reserves also contain value adjustments to be accounted for outside of profit or loss for

- equity instruments that are valued outside profit or loss at fair value in other comprehensive income,
- cash flow hedges,
- accumulated foreign currency exchange differences and
- actuarial gains/losses arising from the valuation of pensions and similar obligations.

In the fiscal year 2021, the changes in value for equity instruments valued outside profit or loss totaled 17 thousand euros (prior year: minus 1,375 thousand euros). The applicable income taxes total minus 20 thousand euros (prior year: 410 thousand euros).

The effective portions of the change in the value of the derivatives to be recognized outside of profit or loss within the framework of the cash flow hedges were recognized at 2,253 thousand euros (prior year: 3,987 thousand euros), less the applicable income taxes in the sum of 661 thousand euros (prior year: minus 1,200 thousand euros).

Accumulated foreign currency exchange effects encompass the influences of foreign currency conversions of the separate financial statements of subsidiaries whose functional currency deviates from that of the Group, as well as effects from foreign currency conversions of assets and liabilities of overall 21,014 thousand euros (prior year: minus 11,328 thousand euros). The change in the applicable income taxes was in the sum of minus 1,424 thousand euros (prior year: 1,333 thousand euros). As a result of the sale of the non-optical process metrology business for grinding machines, cumulative income from currency translation so far included in equity in the sum of 16 thousand euros was reclassified to the income statement.

Actuarial gains from the valuation of pensions in the sum of 6,986 thousand euros (prior year: minus 2,096 thousand euros) were recognized. The applicable income taxes total minus 2,009 thousand euros (prior year: 441 thousand euros).

In the fiscal year 2021 the change in income taxes recognized outside of profit or loss led to a reduction in the reserves by the total sum of 2,792 thousand euros (prior year: increase by 985 thousand euros).

Treasury Shares

On the basis of a resolution passed by the Annual General Meeting on June 5, 2018, the Executive Board is authorized up to June 4, 2023 to purchase treasury no-par value shares not exceeding a proportion of ten percent of the nominal capital existing at the time the resolution is adopted or – if this amount is lower – of the nominal capital existing at the time of exercising the resolution for purposes other than trading in treasury shares. The purchased treasury shares together with treasury shares that the entity had already purchased and still holds (including the attributable shares in accordance with §§ 71a ff. AktG) may not exceed 10 percent of the share capital of the entity. The authorization may be exercised in whole or in part, on a one-off or repeat basis and for one or more authorized purposes. The purchase and sale of treasury shares may be exercised by the entity or, for specific authorized purposes, also by dependent companies, by companies in which the entity holds a majority interest, or by third parties for its or their account. At the decision of the Executive Board, acquisition is by purchase, subject to compliance with the principle of equal treatment (§ 53a of the Stock Corporation Act), on the stock exchange or by means of a public offering or a public invitation to the shareholders to submit an offer for sale.

For the purpose of protecting shareholders against a dilution of their shares, the proposed resolution expressly provides for a restriction of the use of acquired treasury shares in such a way that the total of the acquired shares together with shares issued or sold by the Company during the term of this authorization under another authorization to the exclusion of shareholders' subscription rights or which enable or oblige the subscription of shares is limited to a notional interest in the nominal capital of no more than a total of 20 percent of the nominal capital at the time the authorization becomes effective or – if the following value is lower – at the time this authorization is exercised.

Further details regarding the buyback of treasury shares are described in agenda item 9 in the invitation to the 2018 Annual General Meeting, accessible to the general pubic on our website at www.jenoptik.com under the heading Investors / Annual General Meeting. As of December 31, 2021, the company had no treasury shares.

5.17 Non-controlling interests

This item in the statement of financial position contains reconciliation items for shares of non-controlling shareholders in the capital to be consolidated, arising from the capital consolidation, as well as the profits and losses allocated to them.

5.18 Pension provisions

Provisions for pension obligations are set aside on the basis of pension plans for retirement, disability and survivor benefit commitments and exist in Germany and Switzerland. There are additional commitments in France to make one-off payments upon retirement.

As a result of the acquisition of SwissOptic AG, additional obligations under the Swiss pension system were assumed in 2021, these are classified as a defined benefit plan due to a potential obligation to make additional contributions in the event of a shortfall. The plan is financed in accordance with the statutory requirements and provides for a contribution towards the risk benefit by beneficiaries up to retirement. In this context, the pension plan is financed by contributions from both the employer and the employee. The corresponding assets are offset as plan assets against the assumed obligation.

As a result of the classification of the VINCORION division as a discontinued operation in accordance with IFRS 5, the provisions for pensions and similar obligations were reclassified under "Liabilities in connection with assets held for sale".

The benefits provided by the Group vary according to the legal, tax, and economic circumstances of the respective country and, as a rule, depend on the duration of employment and on the remuneration of the employee on commencement of retirement. The existing pension plans in Germany are closed, with the exception of the reinsured group provident fund.

Within the Group, the occupational pension provision is provided both on the basis of defined contribution as well as defined benefit plans. In the case of defined contribution plans, the company pays contributions in accordance with statutory or contractual provisions, or voluntarily makes contributions to public or private pension insurers. Upon payment of the contributions, the company has no further benefit obligations.

Defined benefit plans

Most retirement schemes within the Group are based on defined benefit plans, wherein a distinction is made between pension schemes financed through provisions or externally financed pension schemes.

The company is exposed to various risks in conjunction with defined benefit plans. Along with general actuarial risks such as longevity risks and the risk of changes in interest rates, the company is exposed to foreign currency exchange as well as investment risks.

Pension plans in the form of a reinsured group provident fund are treated as defined benefit plans due to the ongoing low interest rate phase and the associated claim risk arising from the subsidiary liability.

In accordance with IAS 19, pension provisions for the benefit commitments are determined in accordance with the projected unit credit method. In this context, the future obligations are valued on the basis of benefit claims acquired pro rata as of the balance sheet date, taking into account trend assumptions for the valuation parameters which affect the level of benefits. All benefit schemes require actuarial calculations.

Jenoptik determines the net interest expense (net interest income) by multiplying the net liability (net asset) at the commencement of the period by the underlying interest rate on commencement of the period, discounting the benefit-oriented gross pension obligation.

The actuarial effects cover, on the one side, the actuarial profits and losses arising from the valuation of the benefit-oriented gross pension obligation and on the other, the difference between the actual yield realized on plan assets and the typical yield assumed on commencement of the period.

The benefit obligations of the continuing operations covered 852 entitled beneficiaries, including 536 active employees, 110 former employees as well as 206 retirees and survivors. There are additional 708 benefit obligations in the discontinued operation.

In particular, the obligations via the Group Provident Fund, plans under the Swiss pension scheme and the obligations of the discontinued operation are partially covered by plan assets and netted in accordance with IAS 19. These plan assets are primarily managed by the Leica Pensionskasse [pension fund] (Switzerland) and AXA Lebensversicherung AG [life insurance company] or, for the discontinued operation, by a trust association under a CTA model.

The change in the defined benefit obligations (DBO), including the discontinued operation, is shown as follows:

in thousand euros	2021	2020
DBO on 1/1	**83,209**	**79,965**
Foreign currency exchange effects	637	53
Current service expenses	719	593
Contributions to the pension plans	490	789
Thereof by employees	490	789
Interest expenses	481	671
Actuarial gains (-) and losses (+)	−6,419	2,602
Empirical actuarial gains and losses	−145	−840
Changes in demographic assumptions	−566	42
Changes in financial assumptions	−5,707	3,400
Changes in the scope of consolidation	83,129	1,007
Pension payments	−2,336	−2,470
Reclassification in accordance with IFRS 5	−48,342	0
DBO on 31/12	**111,567**	**83,209**

Actuarial losses resulting from the change in financial assumptions arose in particular as a result of the further rise in the discount rate in 2021.

The changes in the plan assets, including the discontinued operation, are shown as follows:

in thousand euros	2021	2020
Plan assets as of 1/1	**48,031**	**48,320**
Foreign currency exchange effects	628	24
Interest income from plan assets	266	407
Return on plan assets less interest income	568	506
Contribution	744	912
Employer	254	123
Employee	490	789
Changes in the scope of consolidation	81,156	−63
Administrative expenses	−14	−17
Pension payments	−2,036	−2,058
Reclassification in accordance with IFRS 5	−27,154	0
Plan assets as of 31/12	**102,188**	**48,031**

The changes in the DBO and plan assets attributable to the group of consolidated entities, relate in particular to the obligations assumed for SwissOptic AG and disposals as a result of the sale of JENOPTIK Industrial Metrology Switzerland SA.

The effects of the expense of the continuing operations, recognized in the income statement, are summarized as follows:

in thousand euros	1/1–31/12/2021	1/1–31/12/2020
Current service expenses	358	195
Net interest expenses	68	57
Total expenses	**426**	**252**

The current service expenses are included in the personnel expenses of the functional areas. The interest charged on the obligation as well as the interest received on plan assets are recorded in the interest result. The expense of the discontinued operation recognized in the income statement in the sum of 509 thousand euros (prior year: 605 thousand euros) is included in the item "Earnings after tax from discontinued operation".

The net pension obligation as of the balance sheet date is as follows:

in thousand euros	31/12/2021	31/12/2020
Present value of the obligation covered by the fund	105,741	76,974
Plan assets	−102,188	−48,031
Net liability of the obligation covered by plan assets	3,552	28,943
Net liability of the obligation not covered by plan assets	5,827	6,235
Total	**9,379**	**35,178**

The portfolio structure of the plan assets is shown as follows:

in thousand euros	31/12/2021	31/12/2020
Insurance contracts	13,636	21,033
Stocks, bonds and other securities	42,425	19,892
Real estate	31,205	0
Cash and cash equivalents	3,385	8,971
Investments	135	85
Other assets and liabilities	11,403	−1,950
Total	**102,188**	**48,031**

The insurance contracts in the sum of 13,478 thousand euros relate to pension insurance policies with AXA Lebensversicherung AG. The insurance company's investments were mainly in equities and investment assets, bearer bonds and fixed-interest bearing securities, as well as other loan receivables.

The key, wighted average actuarial assumptions are shown in the following table. Where applicable, the above-mentioned assumptions allow for anticipated inflation.

in percent	2021	2020
Discount rate		
Germany	1.05	0.60
Switzerland	0.30	0
France	1.04	0.60
Future increases in salary		
Germany	2.44	2.93
Switzerland	1.50	1.50
France	2.00	2.00
Future increases in pension		
Germany	1.75	1.75
Germany (Group Provident Fund)	1.00	1.00

Due to the structure of pension obligations in Switzerland, no future pension increase (0 percent) was taken into account in the actuarial assumptions.

The valuation assumptions for Germany also take into account the pension obligations of the discontinued operation.

Actuarial gains or losses are the result of changes in pension beneficiaries and deviations from actual trends (e.g. increases in income or pensions) compared with calculation assumptions. In accordance with the regulations stated in IAS 19, this amount is offset against other comprehensive income in equity.

A change in the key actuarial assumptions as of the balance sheet date would affect the DBO as follows (prior year including the discontinued operation):

	Change in the DBO	
in thousand euros	Increase	Reduction
Discounting rate – change of 0.5 percentage points	−7,237 (−5,664)	7,822 (6,487)
Future increases in salary – change of 1.0 percentage points	1,625 (359)	−1,579 (−345)
Future increases in pension – change of 1.0 percentage points	9,557 (8,821)	−558 (−6,470)
Mortality rates – change by 1 year	3,730 (4,632)	−3,734 (−4,583)

The figures in brackets relate to the prior year

The sensitivity analysis shows the change in a DBO in the event of a change in an assumption. Since the changes do not have a straight-line effect on the calculation of DBO due to actuarial effects, the cumulative change in the DBO resulting from changes in a number of assumptions cannot be directly determined.

The reduction in the pension increase was limited to a maximum of 0 percent, and was applied in particular to the pension obligation of SwissOptic AG.

As of December 31, 2021, the weighted average remaining service period was 10 years and the weighted average remaining maturity of the obligation was 15 years.

The anticipated pension payments arising from the pension plans of the continuing operations as of December 31, 2021 are in the sum of 4,386 thousand euros for the following fiscal year (prior year: 2,841 thousand euros) and for the subsequent four fiscal years total 19,219 thousand euros (prior year: 12,900 thousand euros).

Defined contribution plans

Within the framework of the defined contribution plans, expenses of the continuing operations totaled 17,929 thousand euros for 2021 (prior year: 16,353 thousand euros), this figure includes contributions to statutory pension insurance providers in the sum of 13,562 thousand euros (prior year: 12,505 thousand euros).

5.19 Provisions for income taxes

in thousand euros	31/12/2021	31/12/2020
Provisions for income taxes	6,949	2,624

Details on income taxes are provided in Note 4.12 from page 193 on.

5.20 Other provisions

The development of other provisions is shown in the table below.

Key items in the personnel provisions relate to performance premiums, profit sharing, and similar commitments, as well as to the share-based remuneration for the Executive Board and some senior management personnel. Personnel provisions also include anniversary of service payments in the sum of 5,217 thousand euros (prior year: 5,094 thousand euros) and partial retirement obligations in the sum of 1,628 thousand euros (prior year: 1,696 thousand euros). Actuarial expert opinions were prepared for the partial retirement obligations with the assumption of income increasing at 2.44 percent (prior year: 2.94 percent). The amount of the liability for top-up payments already earned as of December 31, 2021 was 533 thousand euros (prior year: 838 thousand euros).

The provision for guarantee and warranty obligations included expenses for individual guaranty cases as well as for flat-rate warranty risks. The calculation of the provision for flat-rate warranty risks is based on empirical values which were determined as a guarantee cost ratio of revenue on a company or product group-specific basis and applied to revenues which are liable to guarantees. The amounts that were reversed in the fiscal year 2021 chiefly comprise guarantee and warranty provisions for specific individual cases for which the underlying obligations no longer existed as a result of agreements with customers for remedial action.

The provision for impending losses was recognized for individual customer orders and relates in particular to a larger customer order in the Light & Optics division.

The measures for restructuring taken in the fiscal year 2020 for reducing costs and increasing efficiency in the Light & Production division were implemented in the fiscal year 2021; unused provisions were reversed through profit or loss.

Other provisions covered, amongst other things, decommissioning obligations as well as provisions for claims for damages. Other provisions also made allowance for numerous identifiable specific risks as well as contingent liabilities which were accounted for in the amount of the best possible estimate of the settlement sum. Additions in the fiscal year 2021 included, among other things, new indemnification obligations as well as expenses arising from decommissioning obligations.

The anticipated claims are shown below by maturity:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	2021
Personnel	22,362	5,518	2,808	30,687
Guarantee and warranty obligations	7,957	2,366	0	10,322
Impending losses	4,840	3,830	129	8,800
Restructuring	28	0	0	28
Others	4,721	1,730	1,505	7,956
Total	**39,907**	**13,444**	**4,442**	**57,794**

in thousand euros	Balance as at 1/1/2021	Changes in the scope of consolidated entities	Foreign currency exchange effects	Additions	Discounting	Utilization	Reversals	Reclassifications according to IFRS 5 (+/-)	Balance as at 31/12/2021
Personnel	23,891	4,742	485	18,409	19	– 12,552	– 2,626	– 1,682	30,687
Guarantee and warranty obligations	22,353	1,768	95	5,531	0	– 3,965	– 4,368	– 11,093	10,322
Impending losses	1,068	695	5	9,786	0	– 367	– 218	– 2,169	8,800
Restructuring	11,898	0	23	240	0	– 5,779	– 4,178	– 2,176	28
Others	10,311	251	190	2,674	5	– 1,767	– 2,224	– 1,484	7,956
Total	**69,521**	**7,456**	**798**	**36,641**	**24**	**– 24,429**	**– 13,613**	**– 18,605**	**57,794**

5.21 Share-based payments

As of December 31, 2021, the Jenoptik Group had at its disposal share-based remuneration instruments in the form of virtual shares for both Executive Board members and some senior management personnel. In this context, a distinction must be made between Long Term Incentives of the Executive Board remuneration system that was applicable for Hans-Dieter Schumacher up to the end of 2017 and the remuneration system for some senior management personnel ("LTI") (payment of the last tranche in 2022) as well as the Performance Shares in accordance with the currently applicable Executive Board remuneration system.

The effects associated with the share-based remuneration with settlement in cash in the income statement as well as the statement of financial position were as follows for the continuing operations:

	Income statement		Statement of financial position	
in thousand euros	2021	2020	2021	2020
Virtual shares for the current year	−730	−467	730	467
Virtual shares for prior years	−717	538	2,176	1,701
Total	**−1,447**	**71**	**2,906**	**2,168**

The valuation basis used for determining the fair value of the LTI is the daily and volume-weighted, average share price of JENOPTIK AG over the last twelve months. The fair value of the performance shares is determined on the basis of an arbitrage-free valuation according to the Black/Scholes option pricing model.

Payment for the virtual shares granted to the Executive Board is generally made at the end of their four-year, contractually defined term. However, this only applies to the performance shares if multi-annual targets have been achieved on completion of the term. In the event of a departure, performance shares will also only be valued, allocated and then paid out at the end of the respective performance period, depending on whether the targets have been achieved. In the first quarter 2021 a total of 30,273 Performance Shares were allocated provisionally to the members of the Executive Board. The virtual shares allocated to the members of the Executive Board for fiscal years 2017 to 2021 were measured at fair value as of the 2021 balance sheet date and recognized in provisions.

The development of the Executive Board members' virtual shares is shown in the following table:

in units	Number for 2021	Number for 2020
Executive Board		
1/1	124,701	114,257
Granted for period	30,273	32,620
Granted for protection of existing shares in case of dividend payment [1]	161	186
Paid out	− 30,109	− 22,362
31/12	125,026	124,701

* LTI in accordance with the Executive Board remuneration system in force up to 2017

Virtual shares are also granted to some members of the top management. The number of virtual shares is determined on the basis of target achievement as well as on the volume-weighted average closing price of the Jenoptik share over the last 12 months of the reference year. Payment is made at the end of the fourth subsequent year after allocation, based on the volume-weighted average closing price of the Jenoptik share in the full fourth subsequent year. In the event of an exit before the end of the term, the virtual shares may be forfeit, depending on the reasons for the departure.

The development of these virtual shares in the continuing operations is shown in the following table:

in units	Number for 2021	Number for 2020
Members of the top management		
1/1	25,496	47,255
Granted for period	8,526	11,058
Granted for adjusting degree of target attainment in prior year	−2,242	−2,586
Claims expired	0	−4,049
Paid out	−3,289	−26,182
31/12	28,491	25,496

The virtual shares granted to the top management are valued at the pro rata fair value already earned and shown under provisions.

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5.22 Financial debt

The maturity periods for the financial debt are shown in the table below:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Liabilities to banks	137,575 (118,565)	201,899 (82,133)	219,319 (8,552)	558,793 (209,250)
Liabilities arising from leases	11,418 (12,306)	25,365 (32,828)	2,163 (14,897)	38,946 (60,031)
Total	**148,993 (130,871)**	**227,264 (114,961)**	**221,482 (23,449)**	**597,739 (269,281)**

The figures in brackets relate to the prior year

Liabilities to banks with a term of up to one year include an outstanding debenture bond tranche in the sum of 55,000 thousand euros (prior year: 69,000 thousand euros), which were reclassified from non-current to current. In addition, the item includes real estate loans as well as money market drawdowns under the syndicated loan agreement concluded in 2021 in the total sum of 75,000 thousand euros.

Liabilities to banks with a term of one to five years essentially comprise part of the debenture bonds issued in 2021 with sustainability components with originally terms of four-and-a-half and five years. This item also includes interest and redemption payments for real estate financing in Germany.

Liabilities to banks with a term of more than five years essentially relate to the remaining part of the debenture bonds with sustainability components with original terms of six-and-a-half, seven and nine and a half years.

As at the balance sheet date, the existing syndicated loan agreement was utilized with money market loans in the sum of 75,000 thousand euros (prior year: 110,000 thousand euros) and guarantees in the sum of 10,193 thousand euros (prior year: 10,886 thousand euros). Taking into account the additional lines of financing not fully utilized as of the balance sheet date 324,978 thousand euros (prior year: 417,319 thousand euros) of the guaranteed, existing credit lines were unused.

The decrease in liabilities from leases is mainly due to the classification of VINCORION's liabilities as "held for sale". Current liabilities from leases in the prior year included liabilities of the now discontinued operation VINCORION in the sum of 3,120 thousand euros. Non-current liabilities from leases in the prior year included a contribution from VINCORION in the sum of 20,522 thousand euros.

5.23 Other non-current liabilities

Other non-current liabilities comprise the following:

in thousand euros	31/12/2021	31/12/2020
Derivatives	713	84
Non-current trade payables to third parties	543	826
Liabilities arising from corporate acquisitions	0	27,159
Non-current financial liabilities to clients	0	495
Other non-current financial liabilities	1,095	980
Total	**2,350**	**29,545**

As in the prior year, the other non-current financial liabilities mainly include a contractual obligation to make a final payment after completion of the company headquarters of a TRIOPTICS company.

In the prior year, liabilities arising from corporate acquisitions were the result of conditional purchase price components of the acquisitions of INTEROB and TRIOPTICS, as well as a final payment for the contractually agreed acquisition of the remaining 25 percent of the shares in Trioptics GmbH. The still remaining final payment will be shown under current financial liabilities as of December 31, 2021.

Further information on the development of the contingent purchase price components and on the derivatives can be found in the Notes under "Financial instruments" from page 228 on.

5.24 Current trade payables

This item includes:

in thousand euros	31/12/2021	31/12/2020
Trade payables to third parties	94,221	89,681
Trade payables to non-consolidated associates and investments	0	66
Total	**94,221**	**89,747**

Current trade payables in the prior year included liabilities of the now discontinued operation VINCORION in the sum of 18,768 thousand euros.

5.25 Contract liabilities

This item in the statement of financial position constitutes the obligations of the Group, under IFRS 15, to transfer goods or services to a customer for which it, the Group, has received a consideration in return from the customer or for which a requested advance payment is due.

The status of the contract liabilities as of the balance sheet date of December 31, 2021 is shown in the table below:

in thousand euros	31/12/2021	31/12/2020
Contract liabilities	**47,323**	**46,274**
Realization within one year	44,684	44,768
Realization within more than one year	2,639	1,506

The non-current portion mainly includes deferred potential penalties as well as down-payments arising from long-term maintenance contracts and customer projects that will not be fully completed in 2022. There is no significant financing component.

In the prior year, the current portion of contract liabilities included advances in the sum of 9,486 thousand euros received from customers of the now discontinued operation VINCORION, and the non-current portion of contract liabilities included advances received from VINCORION's customers in the sum of 405 thousand euros.

Of the contract liabilities of 46,274 thousand euros recognized at the beginning of the year, 43,374 thousand euros were recognized as revenue in 2021. This amount includes realized revenue of 9,226 thousand euros from the now discontinued operation VINCORION.

The transaction price for all customer orders that have not yet been completed in full is shown as the order backlog. This shows the following due dates:

in thousand euros	31/12/2021	31/12/2020
Transaction price of performance obligations not yet completely fulfilled	**543,491**	**299,812**
Realization within the next fiscal year	467,020	267,393
Realization within the next but one fiscal year	28,105	12,938
Realization in subsequent fiscal years	48,365	19,482

The order backlogs reported for the fiscal year 2021 and for the prior year do not include the order backlogs of the discontinued operation VINCORION.

5.26 Other current financial liabilities

This item includes:

in thousand euros	31/12/2021	31/12/2020
Liabilities from acquisitions	10,692	66,621
Other liabilities to investments	3,022	2,800
Liabilities from interest payments	2,897	1,364
Derivatives	1,818	439
Liabilities arising from remuneration for the Supervisory Board	791	694
Payments received from sales of receivables	146	312
Other current financial debt	2,657	3,098
Total	**22,023**	**75,327**

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Liabilities arising from corporate acquisitions as of December 31, 2021 include the final payment made for the completed acquisition of the remaining shares in Trioptics GmbH after transfer from non-current liabilities. In the prior year, liabilities also included purchase price components arising from the acquisition of TRIOPTICS that were paid in 2021. The development of the conditional purchase price components from the acquisition of TRIOPTICS is described in the section "Financial instruments".

The item derivatives is explained in greater detail in the Notes under "Financial instruments" from page 228 on.

The payments received from sales of receivables in the sum of 146 thousand euros resulted from payments by customers on trade receivables that were sold under a genuine and confidential factoring program (see the disclosures in the section "Current trade receivables" from page 207 on).

Other liabilities to investments included the item cash pool liabilities to HILLOS GmbH, which is recognized in the consolidated financial statements using the at-equity method and for which market interest rates were agreed.

5.27 Other current non-financial liabilities

This item includes:

in thousand euros	31/12/2021	31/12/2020
Liabilities to employees	9,392	6,888
Liabilities arising from other taxes	7,171	8,394
Liabilities arising from social security payments	1,708	1,624
Liabilities to trade association	998	1,335
Deferrals and accruals	126	467
Other current non-financial liabilities	854	389
Total	**20,249**	**19,098**

Liabilities to employees included, amongst others, vacation entitlements and flextime credits.

Liabilities from other taxes essentially comprise liabilities arising from sales tax and property transfer tax.

Other current, non-financial liabilities in the prior year comprised liabilities of VINCORION in the sum of 2,743 thousand euros.

6 Disclosures on Cash Flows

Liquid funds comprise the cash and cash equivalents recognized in the statement of financial position in the sum of 54,817 thousand euros (prior year: 63,405 thousand euros) after taking into account an impairment loss of 122 thousand euros (prior year: 78 thousand euros) as provision for a default risk. Liquid funds are defined as the sum of cash on hand and demand deposits at banks with an initial maturity of less than three months.

The statement of cash flows explains the flow of payments, divided between the inflows and outflows of cash from the current business, from investing and financing activities. There was no adjustment to the cash flow statement due to the discontinued operation; the net cash flows are presented in the section "Discontinued operation" from page 194 on. Changes in the statement of financial position items used for preparing the statement of cash flows cannot be directly derived from the statement of financial position because the effects arising from the foreign currency conversion and changes in the group of consolidated entities are non-cash transactions and are therefore eliminated. Cash flows from operating activities are indirectly derived from earnings before tax of the continuing as well as the discontinued operations. Earnings before tax are adjusted for non-cash expenses and income. The cash flows from operating activities are determined by taking into account the changes in working capital, provisions and other operating statement of financial position items.

The cash flows from operating activities in the fiscal year just past totaled 98,034 thousand euros (prior year: 89,748 thousand euros). The increase is due mainly to the significant increase in earnings before tax despite the included non-cash income from the fair value adjustment of conditional purchase price components and higher net payments for the build-up of working capital.

Cash flows from investing activities amounted to minus 413,621 thousand euros (prior year: minus 188,443 thousand euros) and, in addition to higher operating investment activities, was characterized in the fiscal year 2021 in particular by the acquisition of BG Medical and the SwissOptic Group as well as the payment of a purchase price liability arising from the acquisition of TRIOPTICS.

In addition, disposals of financial investments and divestments had a positive impact on cash flows from investing activities.

			Non cash-effective change						
in thousand euros	Balance as of 1/1/2021	Cash-effective change	Foreign currency exchange effects	Change in group of consolidated entries	Addition/disposal	Change in the fair value	Change in maturity	Reclassification in accordance with IFRS 5[1]	Balance as of 31/12/2021
Non-current financial debt	138,410	399,906	3,131	4,353	8,504	−641	−86,699	−18,220	448,746
	(122,562)	(121,771)	(−895)	(15,121)	(5,491)	(100)	(−125,740)	(0)	(138,410)
Non-current liabilities to banks	90,685	399,906	2,220	2,882	0	−641	−73,834	0	421,218
	(72,182)	(121,823)	(−86)	(12,902)	(0)	(100)	(−116,236)	(0)	(90,685)
Non-current liabilities from leases	47,726	0	911	1,470	8,504	0	−12,864	−18,220	27,528
	(50,380)	(−52)	(−808)	(2,219)	(5,491)	(0)	(−9,504)	(0)	(47,726)
Current financial debts	130,871	−72,496	283	5,061	2,070	32	86,699	−3,525	148,993
	(36,996)	(−39,405)	(−299)	(6,746)	(1,058)	(35)	(125,740)	(0)	(130,871)
Current liabilities to banks	118,565	−58,764	65	3,843	0	32	73,834	0	137,575
	(26,285)	(−27,198)	(−149)	(5,821)	(0)	(35)	(113,771)	(0)	(118,565)
Current liabilities from leases	12,306	−13,731	217	1,218	2,070	0	12,864	−3,525	11,418
	(10,712)	(−12,207)	(−150)	(924)	(1,058)	(0)	(11,969)	(0)	(12,306)
Total	**269,281**	**327,410**	**3,414**	**9,414**	**10,574**	**−609**	**0**	**−21,745**	**597,739**
	(159,558)	**(82,366)**	**(−1,194)**	**(21,867)**	**(6,550)**	**(134)**	**(0)**	**(0)**	**(269,281)**

The figures in brackets relate to the prior year
[1] Status of financial debts of discontinued operation VINCORION as of December 31, 2021

In the prior year, in addition to the payments for the acquisition of TRIOPTICS, cash flows for investing activities included, in particular, net proceeds from current investments in the sum of 69,900 thousand euros.

Cash flows from financing activities totaled 304,205 thousand euros (prior year: 63,716 thousand euros). Cash outflows from the dividends paid in the sum of 14,310 thousand euros (prior year: 7,441 thousand euros), increased over the prior year as a result of the increased dividend payment compared with 2020 of 0.25 euros per share (prior year: 0.13 euros per share) In addition, dividends were paid to minority shareholders in the sum of 1,749 thousand euros (prior year: 985 thousand euros).

The proceeds from the take-up of loans are primarily attributable to the take-up of the debenture bonds in the sum of approx. 400,000 thousand euros.

In addition, the syndicated loan concluded in the fiscal year 2015 with a credit line of 230,000 thousand euros and repaid as at the qualifying date in the prior year through money market loans in the sum of 110,000 thousand euros was replaced by a new contract with a credit line in the sum of 400,000 thousand euros. As of December 31, 2021, 75,000 thousand euros had been drawn from this new syndicated credit line for money market loans.

Payments for leases totaled 13,732 thousand euros (prior year: 12,259 thousand euros). The change in the group financing included in particular payments from or to associated, non-consolidated companies and investments.

The changes in financial liabilities that will lead to cash flows from financing activities in the future, are shown in the following table:

The reconciliation shown above exclusively takes into account financial debt, consequently the payments collected from the original customer and forwarded to the Factor in the context of the factoring, are not taken into account (see section "Current trade receivables" from page 207 on). In the statement of cash flows these are included as a net amount in the item Repayments of loans in the sum of 670 thousand euros (prior year: payment of 3,012 thousand euros). Information regarding the allocation of free cash flows to the segments is provided in the Segment Report from page 225 on).

The sale of the crystal growth business and the non-optical process metrology business for grinding machines in the fiscal year impacted on the Group's statement of financial position items as follows:

in thousand euros	Total
Assets	
Intangible assets	−1,808
Property, plant, and equipment	−341
Deferred tax assets	−263
Inventories	−4,006
Trade accounts receivables	−454
Other current assets	−127
Cash and cash equivalents	−900
Liabilities	
Pension provisions	2,045
Non-current provisions	166
Non-current financial debts	43
Deferred tax liabilities	51
Current provisions	162
Current financial debts	402
Trade accounts payable	206
Other current liabilities	195
Net assets and liabilities	**−4,628**
Remuneration included in cash, less directly apportionable selling costs	8,485
Sold balance of cash and cash equivalents	−900
Net cash inflows	**7,585**

7 Disclosure on the Segment Report

The segments are shown in accordance with the regulations laid down in IFRS 8 "Operating segments".

IFRS 8 follows the management approach. Accordingly, the external reporting is carried out for the attention of the chief operating decision makers on the basis of the group internal organizational and management structures as well as the internal reporting structure. The Executive Board analyzes the financial information using the key performance indicators which serve as a basis for decisions on allocating resources and assessing performance. The accounting policies and principles for the segments are the same as those described for the Group in the basic accounting principles.

The Light & Optics division is a global OEM supplier of solutions and products based on photonic technologies. Jenoptik offers a wide range of products and services in this field, combining comprehensive expertise in optics, laser technology, digital imaging, optoelectronics, and software. Under the TRIOPTICS brand, Jenoptik offers optical measuring and manufacturing systems for the quality control of lenses, objectives and camera modules. The systems, modules, and components help customers to tackle the challenges they face using photonic technologies. Customers include plant and machinery manufacturers, equipment manufacturers in areas such as semiconductor equipment, laser material processing, medical technology and life science, industrial automation, automotive and mobility, security, and research institutions. Jenoptik acquired a complementary product portfolio in the areas of dentistry (e.g., intraoral scanners) and robot-assisted surgery (e.g. components for minimally invasive surgical devices) through the acquisition of BG Medical (renamed JENOPTIK Medical GmbH in January 2022). Through the activities of the SwissOptic Group, which was also newly acquired, the Group is strengthening its own business in the areas of ophthalmology and life science. The acquisition will enable Jenoptik to roughly double the size of its medical technology business.

The Light & Production division is a global specialist in the optimization of manufacturing processes, and increasingly also offers integrated solutions (complex production lines utilizing a range of technologies) from a single source. With many years' experience and expertise in industrial metrology and optical inspection, modern laser-based material processing and highly flexible robotic-based automation, the division develops manufacturing solutions for customers in the automotive, aerospace and other manufacturing industries.

In the field of smart mobility, the Light & Safety division operates in the following areas of business: traffic law enforcement, civil security, road user charging as well as emission control, and traffic management. Here, Jenoptik develops, produces, and sells various components, systems, and services used by public sector customers to monitor compliance with applicable road traffic regulations and consequently make the world's roads safer.

The activities of the holding company (Corporate Center), real estate management and the segment VINCORION, previously subject to reporting requirements (insofar as required for the reconciliation of the indicators relating to the statement of financial position to the group figure), are summarized under Other. VINCORION was classified as a discontinued operation in accordance with IFRS 5 in the fiscal year 2021 and is therefore no longer shown in the segment reporting.

The "Consolidation" column comprises the business relationships to be consolidated between the segments and Other, as well as the necessary reconciliations.

The business relationships between the entities of the Jenoptik Group segments are fundamentally based on prices that are also agreed with third parties.

Revenue more than 10 percent of the total revenue of the Jenoptik Group was generated with one customer of the Light & Optics division (118,130 thousand euros; prior year: 104,156 thousand euros). There were no other customer relationships with individual customers whose share of revenue is of significant importance when measured against group revenue.

The analysis of revenue by region is conducted according to the country in which the customer has its legal seat.

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7.1 Segment Report

in thousand euros	Light & Optics	Light & Production	Light & Safety	Other	Consolidation	Total
Revenue	462,018	176,324	110,101	44,763	−42,489	750,717
	(322,545)	(175,573)	(114,034)	(51,024)	(−47,710)	(615,466)
of which intra-group revenue	1,290	150	0	41,049	−42,489	0
	(1,150)	(25)	(26)	(46,509)	(−47,710)	(0)
of which external revenue	460,728	176,174	110,101	3,714	0	750,717
	(321,395)	(175,548)	(114,008)	(4,516)	(0)	(615,466)
Europe	221,080	60,850	62,164	3,714	0	347,807
	(174,122)	(83,376)	(67,553)	(4,516)	(0)	(329,567)
of which, Germany	67,761	37,056	30,856	3,712	0	139,384
	(54,305)	(48,558)	(34,670)	(4,516)	(0)	(142,048)
of which Great Britain	2,204	1,983	18,485	0	0	22,672
	(1,138)	(4,303)	(19,500)	(0)	(0)	(24,941)
of which the Netherlands	111,081	100	3,760	0	0	114,941
	(96,406)	(65)	(3,184)	(0)	(0)	(99,655)
Americas	88,904	85,129	31,620	0	0	205,653
	(64,237)	(68,214)	(28,188)	(0)	(0)	(160,639)
of which the USA	86,617	58,639	22,213	0	0	167,469
	(61,749)	(39,208)	(20,753)	(0)	(0)	(121,709)
of which Canada	1,492	21,967	8,388	0	0	31,846
	(2,454)	(21,755)	(7,139)	(0)	(0)	(31,348)
Middle East and Africa	21,296	556	2,490	0	0	24,343
	(12,544)	(1,818)	(6,025)	(0)	(0)	(20,387)
Asia/Pacific	129,447	29,640	13,827	0	0	172,914
	(70,520)	(22,140)	(12,242)	(0)	(0)	(104,903)
of which China	51,403	21,706	200	0	0	73,309
	(24,182)	(16,885)	(373)	(0)	(0)	(41,441)
of which Singapore	30,329	14	380	0	0	30,723
	(19,486)	(134)	(163)	(0)	(0)	(19,783)
EBITDA	136,634	13,188	19,191	−13,221	−57	155,735
	(68,297)	(8,195)	(22,339)	(−6,055)	(0)	(92,776)
Scheduled depreciation and amortization	−25,828	−10,872	−5,123	−5,758	4	−47,578
	(−16,451)	(−12,159)	(−7,143)	(−8,191)	(7)	(−43,937)
Impairment losses	0	0	0	−460	0	−460
	(−672)	−(183)	(0)	(−879)	(0)	(−1,733)
Impairment reversals	0	0	0	451	0	451
	(292)	(0)	(0)	(0)	(0)	(292)
Research and development expenses	−18,224	−6,295	−14,373	−53	60	−38,886
	(−19,663)	(−6,682)	(−13,083)	(−125)	(133)	(−39,420)
Free cash flow (before income taxes)	78,002	−12,495	−4,383	−16,531	−1,401	43,192
	(40,915)	(−123)	(21,424)	(−13,250)	(3,518)	(52,484)
Working capital [1]	172,081	76,852	25,585	−13,476	−485	260,556
	(114,578)	(66,595)	(12,064)	(75,119)	−(227)	(268,130)
Order intake (external)	631,108	185,347	116,504	3,714	0	936,672
	(343,374)	(153,974)	(92,314)	(4,516)	(0)	(594,179)
Frame contracts	107,407	0	27,743	0	0	135,150
	(12,637)	(0)	(8,897)	(0)	(0)	(21,534)
Assets [1]	1,057,612	310,067	126,275	1,545,342	−1,282,255	1,757,041
	(626,139)	(307,905)	(114,888)	(1,208,040)	(−918,129)	(1,338,843)
Liabilities [1]	256,614	210,776	77,295	758,477	−326,779	976,382
	(261,161)	(227,408)	(71,187)	(413,859)	(−324,164)	(649,452)

in thousand euros	Light & Optics	Light & Production	Light & Safety	Other	Consolidation	Total
Capital expenditure for intangible assets, property, plant, and equipment and investment property	28,932 (18,657)	3,371 (4,802)	8,108 (4,629)	9,530 (9,996)	0 (0)	49,941 (38,084)
Number of employees on average excluding trainees (headcount) [2]	1,972 (1,489)	895 (1,033)	484 (475)	971 (1,052)	0 (0)	4,322 (4,049)

The free cash flow (before income taxes) = cash flows from operating activities before payment of income taxes, less proceeds from and expenditure for intangible assets and property, plant, and equipment
The figures in brackets relate to the prior year
[1] Including the VINCORION discontinued operation in the prior year and including assets and liabilities held for sale in the fiscal year
[2] Including employees of the discontinued operation VINCORION

Since January 1, 2021 when OTTO Vision Technology GmbH (OTTO) has been part of the Light & Optics division. In the prior year the entity was part of the Light & Production division. For this reason, the figures reported for the comparable period of the prior year differ from the figures from the prior year's Consolidated Financial Statements.

Due to the classification of VINCORION as a discontinued operation in the fiscal year 2021, the earnings figures for the prior year have been adjusted accordingly. For this reason, the earnings figures reported for the comparative period differ from the figures from the prior year's consolidated financial statements. The classification of VINCORION as a discontinued operation is taken into account exclusively in the fiscal year 2021 for items in the statement of financial position. In the prior year, the contracts relate to the continuing operations so as to provide transparency in the presentation of the development of these order book values.

Segment result reconciliation:

EBITDA is calculated as earnings before interest, taxes, depreciation and amortization including impairments and reversals. The reconciliation of the EBITDA to the EBIT of the continuing operations reported in the consolidated income statement is as follows:

In thousand euros	1/1–31/12/2021	1/1–31/12/2020
EBITDA	155,735	92,776
Scheduled depreciation and amortization	−47,578	−43,937
Impairment losses	−460	−1,733
Impairment reversals	451	292
EBIT	**108,148**	**47,397**

7.2 Non-current assets by regions

in thousand euros	31/12/2021	31/12/2020
Total	1,025,060	755,438
Germany	538,282	538,046
Europe	338,266	79,711
of which Great Britain	46,675	44,923
of which, Switzerland	260,343	783
Americas	125,699	119,547
of which the USA	48,355	43,961
of which Canada	77,344	75,586
Asia / Pacific	22,812	18,134

Non-current assets comprise intangible assets, property, plant, and equipment, investment property, as well as non-current non-financial assets. The assets are allocated to the individual regions according to the countries in which the consolidated entities have their legal seat.

By comparison with the prior year, the acquisition of BG Medical and the classification of VINCORION's assets as held for sale, had an impact on non-current assets in Germany.

The increase in non-current assets in Switzerland is primarily attributable to SwissOptic AG which was consolidated for the first time.

8 Other Disclosures

8.1 Capital management

The aim of Jenoptik's capital management is to maintain a strong capital base in order to retain the trust of the shareholders, creditors and capital markets, as well as to ensure the sustained, successful development of the company. The Executive Board monitors in particular the equity ratio, the development of cash flows as well as the net debt as part of the regular management reporting. In the event of significant deteriorations in the key parameters, alternative courses of action are worked out and the corresponding measures implemented.

As of the balance sheet date December 31, 2021, the key financing of the Jenoptik Group is a syndicated credit line in the sum of 400,000 thousand euros as well eleven debenture bonds totaling 405,000 thousand euros and one debenture bond in the sum of 59,000 thousand US dollars. Further details on these are shown in the Notes under the point Liquidity risk (see page 232). No agreements have been concluded on compliance with certain key financial figures for the existing debenture bonds or for the syndicated loan newly concluded in December 2021.

In addition to the syndicated loan and debenture bonds, the Jenoptik Group utilizes to a lesser extent other source of financing, consisting of bilateral credit lines, development loans, lease and rental financing as well as factoring. These instruments are used to actively manage the development of the cash flow. Detailed information on the factoring is shown in the Notes under section "Current trade receivables" (from page 207 on).

8.2 Financial instruments

General

Within the framework of its operating activities, the Jenoptik Group is exposed to credit, default, liquidity and market risks. The market risks include in particular risks of fluctuations in interest rates and foreign currency exchange rates.

The risks described above impact on the financial assets and liabilities which are shown below (prior year's figures regarding financial assets and financial liabilities include VINCORION).

Financial assets

			Valuation in the statement of financial position in accordance with IFRS 9		
in TEUR	Valuation category in accordance with IFRS 9[1]	Carrying amounts 31/12/2021	Amortized acquisition costs	Fair value – outside of profit or loss	Fair value – through profit or loss
Financial investments					
Current financial investments (cash deposits, equities, bonds)	AC or FVTPL	1,555 (4,894)	1,555 (197)		0 (4,698)
Shares in non-consolidated, associates and investments	FVTOCI	1,001 (841)		1,001 (841)	
Shares in entities which are subject to equity valuation	–[2]	14,328 (13,410)	14,328 (13,410)		
Loans and other financial investments	AC	1,985 (2,084)	1,985 (2,084)		
Trade receivables	AC	120,477 (138,011)	120,477 (138,011)		
Other financial assets					
Receivables from finance leases	–	57 (192)	57 (192)		
Receivables arising from contingent considerations	FVTPL	13,347 (0)			13,347 (0)
Derivatives with hedge relationships					
Interest and currency swap	–	2,957 (0)		2,957 (0)	

in TEUR	Valuation category in accordance with IFRS 9[1]	Carrying amounts 31/12/2021	Valuation in the statement of financial position in accordance with IFRS 9		
			Amortized acquisition costs	Fair value – outside of profit or loss	Fair value – through profit or loss
Foreign exchange forward transactions/ foreign exchange swaps	–	20 (1,956)		20 (1,956)	
Derivatives without hedge relationships					
Interest and currency swap	FVTPL	0 (125)			0 (125)
Foreign exchange forward transactions/ foreign exchange swaps	FVTPL	69 (166)			69 (166)
Other financial assets	AC	8,166 (6,638)	8,166 (6,638)		
Cash and Cash Equivalents	AC	54,817 (63,405)	54,817 (63,405)		
Total		**218,779** **(231,723)**	**201,385** **(223,936)**	**3,978** **(2,797)**	**13,416** **(4,989)**

The figures in brackets relate to the prior year
[1] AC = Amortized costs
FVTPL = Fair value through Profit & Loss
FVTOCI = Fair value through other comprehensive income
[2] Valuation in accordance with IAS 28

Financial liabilities

in thousand euros	Valuation category in accordance with IFRS 9[1]	Carrying amounts 31/12/2021	Valuation in the statement of financial position in accordance with IFRS 9			Balance sheet valuation in accordance with IFRS 16
			Amortized acquisition costs	Fair value – outside of profit or loss	Fair value – through profit or loss	
Financial debts						
Liabilities to banks	AC	558,793 (209,250)	558,793 (209,250)			
Liabilities from leases	–[2]	38,946 (60,031)				38,946 (60,031)
Trade payables	AC	94,764 (90,573)	94,764 (90,573)			
Other financial liabilities						
Liabilities from contingent considerations	FVTPL	0 (16,595)			0 (16,595)	
Derivatives with hedge relationships						
Foreign exchange forward transactions/ foreign exchange swaps	–	1,661 (385)		1,661 (385)		
Derivatives without hedge relationships						
Interest and currency swap	FVTPL	66 (0)			66 (0)	
Foreign exchange forward transactions/ foreign exchange swaps	FVTPL	805 (138)			805 (138)	
Other financial liabilities	AC	21,300 (86,928)	21,300 (86,928)			
Total		**716,335** **(463,900)**	**674,857** **(386,751)**	**1,661** **(385)**	**870** **(16,732)**	**38,946** **(60,031)**

The figures in brackets relate to the prior year
[1] AC = Amortized costs
FVTPL = Fair value through Profit & Loss
FVTOCI = Fair value through other comprehensive income
[2] Valuation in accordance with IFRS 16

The classification of the fair values for the financial assets and liabilities is taken from the following overview:

in thousand euros	Carrying amounts 31/12/2021	Level 1	Level 2	Level 3
Current financial investments	0 (4,698)	0 (4,698)	0 (0)	0 (0)
Shares in non-consolidated, associates and investments	1,001 (841)	0 (0)	0 (0)	1,001 (841)
Receivables from contingent considerations	13,347 (0)	0 (0)	0 (0)	13,347 (0)
Derivatives with hedge relations (assets)	2,977 (1,956)	0 (0)	2,977 (1,956)	0 (0)
Derivatives without hedge relations (assets)	69 (291)	0 (0)	69 (291)	0 (0)
Liabilities from contingent considerations	0 (16,595)	0 (0)	0 (0)	0 (16,595)
Derivatives with hedge relations (liabilities)	1,661 (385)	0 (0)	1,661 (385)	0 (0)
Derivatives without hedge relations (liabilities)	870 (138)	0 (0)	870 (138)	0 (0)

The figures in brackets relate to the prior year

Fair values which are always available as quoted market prices, are allocated to level 1. Fair values determined based on direct or indirect observable parameters, are allocated to level 2. Level 3 is based on measurement parameters that are not based upon observable market data.

The fair values of all derivatives are determined using the generally recognized present value method. In this context, the future cash flows determined via the agreed forward rate or interest rate are discounted using current market data. The market data used in this context is taken from leading financial information systems, such as for example Refinitiv (formerly Reuters). If an interpolation of market data is applied, this is done on a straight-line basis.

The fair values of contingent liabilities are valued at the anticipated payment outflows, taking into consideration the period and risk-dependent interest rate discounted as at the reporting date.

The development of the financial assets and liabilities which are valued at fair value and assigned to level 3, can be found in the table below:

in thousand euros	Shares in non-consolidated associates and investments	Receivables arising from contingent considerations	Liabilities from contingent considerations
Balance as of 1/1/2021	**841**	**0**	**16,595**
Additions	187	0	0
Profits (+)/losses (-) recorded in the operating result	0	12,977	17,532
Profits (+)/losses (-) recorded in the financial result	−37	370	−937
Valuation outside profit/loss	17	0	0
Currency effect	−7	0	0
Balance as of 31/12/2021	**1,001**	**13,347**	**0**

Receivables and liabilities from contingent consideration result from the company acquisitions of INTEROB and TRIOPTICS in the prior year (see section "Company acquisitions and sales" from page 175 on).

The recognized conditional purchase price liabilities from the acquisition of INTEROB were based on the achievement of agreed EBITDA targets in the fiscal years 2021 and 2022. The agreement stipulates that if the target is achieved between 80 and 100 percent, there will be a standard earn-out of up to 3.3 million euros per fiscal year. If the EBITDA target value is undercut by more than 20 percent, the earn-out obligation for the respective fiscal year is completely eliminated. Exceeding the EBITDA target value can result in an unlimited earn-out premium.

As in the prior year, the conditional purchase price liabilities were determined on the basis of the company's corporate planning approved by management. Despite the recovery in the automotive industry, the expected EBITDA result for 2021 could not be achieved, mainly due to delays caused by Covid-19, and was below the threshold of 80 percent.
Based on the current corporate planning, it is no longer assumed that the threshold will be exceeded in the fiscal year 2022.
The liabilities from contingent consideration were therefore released in full.

The recognized conditional purchase price components from the acquisition of TRIOPTICS included a revenue-dependent bonus/malus arrangement and an earn-out component depending on the EBITDA of the fiscal year 2021. The revenue-dependent bonus/malus arrangement is linked to the revenue of the TRIOPTICS Group under commercial law and leads to a bonus or malus of up to 15 million euros in the event of deviations from the original company plan of up to 15 percent. The earn-out component stipulates that if the defined EBITDA target value is exceeded, a conditional additional purchase price payment of up to 15 million euros may have to be made by Jenoptik.

The parameters relevant for the measurement of the purchase price liabilities – consisting of revenue and earnings figures according to German GAAP HGB – were initially determined in the prior year based on the corporate planning approved by management and updated as of December 31, 2021 with the expected revenue and earnings figures under commercial law.

The accounting according to IFRS, which is relevant for the consolidated financial statements, led to a revenue contribution of the TRIOPTICS Group of around 100 million euros revenue over time, and an EBITDA margin above the group average. Due to delays in the completion of individual large-scale customer-specific projects, the expected revenue under commercial law relevant for the purchase price components in 2021 and, as a result, the expected EBITDA under commercial law for the 2021 fiscal year could not be achieved, so that the bonus and earn-out liabilities were reversed through profit or loss. At the same time, a malus claim was capitalized through profit and loss. Receipt of the conditional component from the acquisition of TRIOPTICS is expected in 2022.

Fair value adjustments to contingent receivables and liabilities through profit and loss are recognized in other operating income or other operating expenses. The compounding is shown in the financial result.

Credit and default risks

The credit or default risk is the risk of a customer or a contract partner of the Jenoptik Group failing to fulfill its contractual obligations. This results in both the risk of creditworthiness-related impairment losses to financial instruments as well as the risk of a partial or a complete default on contractually agreed payments.

Credit and default risks primarily exist for trade receivables. These risks are countered by active receivables management and, if required, taken into account by creating impairment provisions. In addition, the Jenoptik Group is exposed to credit and default risks for cash and cash equivalents as well as current cash deposits. These risks are taken into account through constant monitoring of the creditworthiness of our business partners. To this end, business partner credit ratings and Credit Default Swaps (CDS) are subject to regular evaluation. For risk management purposes, liquid funds, amongst other things, are distributed between a number of banks within fixed limits. In accordance with IFRS 9, impairments were also applied to cash and cash equivalents as well as to current cash deposits.

The maximum default risk corresponds to the carrying amount of the financial assets as of the reporting date in the sum of 218,779 thousand euros (prior year: 231,723 thousand euros).

The following impairments were recorded for financial assets for continuing operations in the fiscal year:

in thousand euros	2021	2020
Trade accounts receivable and contract assets	3,354	1,580
Financial investments	107	75
Cash and cash equivalents	92	7
Other financial assets	0	25
Total	**3,553**	**1,687**

These impairments are offset against the following reversals of write-downs on financial assets:

in thousand euros	2021	2020
Trade accounts receivable and contract assets	2,203	5,669
Cash and cash equivalents	62	98
Financial investments	0	239
Total	**2,265**	**6,006**

The impairments to or reversals of write-downs on financial investments as well as cash or cash equivalents are included in the financial result.

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in thousand euros	Interest rates (Range in %)	Carrying amounts 31/12/2021	Cash outflows Total	Up to 1 year	1 to 5 years	More than 5 years
Variable, interest-bearing liabilities to banks	0.9 – 1.30	244,577	261,928	2,628	98,117	161,183
	(0.8 – 1.15)	(15,105)	(15,368)	(879)	(14,489)	0
Fixed-interest bearing liabilities to banks	0.60 – 2.02	314,216	333,966	140,006	130,183	63,777
	(0.65 – 3.85)	(194,144)	(196,450)	(118,945)	(67,755)	(9,750)
Liabilities from leases	0.75 – 5.73	38,946	41,421	12,373	23,929	5,119
	(0.79 – 5.91)	(60,031)	(65,256)	(14,188)	(35,323)	(15,745)
Total		**597,739**	**637,315**	**155,007**	**252,228**	**230,080**
		(269,281)	**(277,074)**	**(134,012)**	**(117,567)**	**(25,495)**

The figures in brackets relate to the prior year

Liquidity risk

The liquidity risk entails the possibility of the Group being unable to meet its financial obligations. In order to ensure our ability to pay and financial flexibility at all times, the net cash and cash equivalents, as well as the credit lines and level of utilization, are planned yearly by means of a five-year financial plan as well as via a quarterly forecast of the statement of financial position, earnings and cash flow. The liquidity risk is also limited by effective cash and working capital management.

As of the balance sheet date the liquidity reserves were divided into cash and cash equivalents in the sum of 54,817 thousand euros (prior year: 63,405 thousand euros) and current financial investments in the sum of 1,555 thousand euros (prior year: 4.894 thousand euros). In addition, the Group has a secured and unused line of credit available in the sum of 324,978 thousand euros (prior year: 417,319 thousand euros). This is primarily the result of the newly agreed syndicated loan in the sum 400,000 thousand euros agreed in December 2021. As at the balance sheet date of December 31, 2021, the syndicated loan was utilized in the form of money market loans in the sum 75,000 thousand euros as well as in the form of guarantees in the sum of 10,193 thousand euros and to a minimal extent in the form of overdraft facilities. This is a limited term syndicated loan contract up to December 2026, with two extension options, each for one year respectively.

In March 2021, new debenture bond tranches in the sum of 350,000 thousand euros, spread over two value dates, as well as one debenture bond tranche in the sum of 59,000 thousand US dollars. The eleven newly issued debenture bonds in total have different maturities of between four and a half and nine and a half years.

No financial covenants were agreed for the new syndicated loan and the debenture bonds issued. However, the terms of the financing are based on the ESG goals of the Group to increase diversity, reduce CO_2 emissions and increase transparency in the supply chain, so that Jenoptik receives a small interest advantage if all goals are achieved for the first time from 2022; Conversely, a malus is accepted if fewer than two of the three goals are achieved.

The newly agreed syndicated loan and the debenture bonds issued in 2021 have significantly strengthened the long-term financial resources of the Jenoptik Group and created the financial basis for further organic growth and growth through acquisitions. Furthermore, the reorganization of the financing structure has provided for a significant diversification in the financing obligations, both in terms of repayment dates and lenders.

The outstanding debenture bond tranche from the year 2015 in the sum of 55,000 thousand euros (prior year: 69,000 thousand euros) will be repaid in April 2022.

Cash outflows up to one year primarily comprise the repayment of money market loans in the sum of 75,000 thousand euros plus interest, drawn under the syndicated loan, as well as the repayment of a debenture bond tranche in the amount of 55,000 thousand euros. This item also includes interest and redemption payments for real estate financing in and Germany as well as liabilities from leases.

The cash outflows in the time frame of between one to five years mainly comprise the repayments of the debenture bonds with original terms of four-and-a-half and five years. In addition, the item includes interest and redemption payments for real estate financing in Germany with an original ten-year term, as well as liabilities from leases.

Cash outflows over five years mainly comprise repayments for debenture bond tranches with original maturities of six-and-a-half, seven and nine-and-a-half years, as well as interest and redemption payments for real estate financing in Germany and leases.

The prior year's figures for liabilities from leases also include the contribution from the now discontinued operation VINCORION of 23,642 thousand euros, of which 3,795 thousand euros was due within one year, 12,957 thousand euros was due between one and five years and 9,523 thousand euros was due in over 5 years.

Risk of changes in interest rates

The Jenoptik Group is fundamentally exposed to the risks of fluctuations in market interest rates for all interest-bearing financial assets and liabilities. In the fiscal year 2021, this mainly affected the debenture bonds taken out in the sum of 405,000 thousand euros (prior year: 69,000 thousand euros) and 59,000 thousand US dollars (prior year: 0 thousand US dollars) as well as the utilization of the syndicated loan contract through money market loans in the sum of 75,000 thousand euros (prior year: 110,000 thousand euros) at the respective balance sheet.

	Carrying amounts	
in thousand euros	31/12/2021	31/12/2020
Interest bearing financial assets	21,456	16,722
Variable interest rates	9,226	3,274
Fixed-interest	12,230	13,448
Interest bearing financial liabilities	599,377	268,423
Variable interest rates	245,670	15,264
Fixed-interest	353,707	253,159

The calculated gains and losses arising from a change in the market interest rate as of December 31, 2021 within a bandwidth of 100 basis points, are shown in the following table:

in thousand euros	31/12/2021	31/12/2020
Increase by 100 base points		
Interest bearing financial assets	92	33
Interest bearing financial liabilities	−2,457	−153
Impact on earnings before tax	**−2,364**	**−120**
Reduction by 100 base points		
Interest bearing financial assets	−92	−33
Interest bearing financial liabilities	2,457	153
Impact on earnings before tax	**2,364**	**120**

As part of the management of interest rate risks, Jenoptik relies on a mix of fixed and variable interest-bearing assets and liabilities, as well as on various interest rate hedging transactions. These include, for example, interest swaps, interest caps and floors, as well as combined interest and currency swaps. As of the balance sheet date on December 31, 2021, there were two combined interest rate and currency swap instruments in place, with the following structure.

Interest and currency swap CNY	
Nominal volume	17,980 thousand CNY
Term	March 12, 2015 to March 12, 2025
Fixed interest rate to be paid in CNY	5.10 percent p.a.
Variable interest rate to be received in EUR	6-month month Euribor plus 0.2 percent p.a.
Interest and currency swap USD	
Nominal volume	59,000 thousand US dollars
Term	March 31, 2021 to March 31, 2026
Fixed interest rate to be received in USD	2.024 percent p.a.
Fixed interest rate to be paid in EUR	0.645 percent p.a.

The interest and currency swap in CNY is used as a hedge for an intra-group loan for real estate financing in Shanghai (China). The change in its market value of minus 191 thousand euros was recorded through profit or loss in the income statement.

The interest and currency swap in US dollars is used as a hedge for the risk of foreign currency exchange differences for the debenture bond tranche issued in 2021, in the sum of 59,000 thousand US dollars. The market value is broken down into an interest rate and a currency component. As of December 31, 2021, the interest component had a positive market value of 556 thousand euros which was recognized in equity outside profit or loss. Explanations of the foreign currency component follow in the next section "Foreign currency exchange risk".

The following receipts and payments are anticipated from these hedging instruments:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Interest and currency swap CNY				
Anticipated payments to bank	138 (122)	350 (458)	0 (0)	488 (579)
Interest and currency swap USD				
Anticipated payments to bank	322 (0)	1,288 (0)	0 (0)	1,610 (0)
Anticipated receipt received from bank	1,010 (0)	4,040 (0)	0 (0)	5,051 (0)

The figures in brackets relate to the prior year

Foreign currency exchange risk

Foreign currency exchange risks are divided into two types: conversion risk and transaction risk.

The conversion risk arises from fluctuations in value caused by changes in exchange rates arising from the conversion of financial assets and liabilities in foreign currencies into the currency of the statement of financial position. Since this is normally not associated with any cash flows, in most cases hedging is not required.

The transaction risk arises from the fluctuation in value of cash flows in foreign currencies caused by changes in currency exchange rates. Derivative financial instruments are used to hedge this risk. These are mainly currency forward transactions and currency swaps and, to a lesser extent, currency options.

Hedging is provided for significant cash flows in foreign currencies arising from the operational business (revenue). Contractually agreed cash flows are hedged 1:1 via so-called micro-hedges. Planned cash flows are hedged on a pro rata basis in the context of anticipatory hedging, securing both groups of similar transactions (revenues) as well as net positions of individual entities.

JENOPTIK AG also hedges the anticipated cash flows from intra-group loans in foreign currencies which have not been declared as a "Net investment in a foreign operation", using derivative financial instruments. As of December 31, 2021, intra-group loans in foreign currencies are hedged as follows (prior year including VINCORION):

Borrowers of intra-group loans	Outstanding amount of intra-group loans (excluding "Net investment in a Foreign operation" portion)	Hedging volume
JENOPTIK Holdings UK Ltd., Great Britain	5,250 thousand GBP	2,540 thousand GBP
JENOPTIK JAPAN Co. Ltd., Japan	130,000 thousand JPY	130,000 thousand JPY

As of the balance sheet date, existing foreign exchange forward transactions, foreign exchange swaps and foreign exchange options totaled a nominal 53,331 thousand euros (prior year: 84,234 thousand euros including VINCORION). A so-called cash flow hedge relationship with the respective underlying transaction was documented for the vast majority of these transactions. Where this is proven effective, its changes in value do not have to be recorded through profit or loss in equity but outside profit or loss in equity. In order to measure the effectiveness, a prospective, quality-related effectiveness test was conducted, on the designation date as well as on an continuous basis, normally as of the balance sheet dates, on the basis of the IFRS 9 "Financial instruments" accounting standard.

The interest rate and currency swap in USD, already mentioned in the previous section "Risk of changes in interest rates", serves to hedge the foreign exchange currency risk for the debenture bond tranche in the sum of 59,000 thousand US dollars. The positive market value of its currency components totaled 2,401 thousand euros as of the qualifying date December 31, 2021. The change in the market value of the currency component is reflected in the income statement through profit or loss. This way, the opposite change in the value of the underlying transaction can be compensated (valuation of the foreign currency liability in EUR).

The breakdown of foreign exchange forward transactions, foreign exchange swaps and foreign exchange options, as well as interest and currency swap USD according to currency sales and purchases, is as follows (prior year including VINCORION):

in thousand euros	31/12/2021	31/12/2020
USD – sale for EUR	40,698	57,375
USD – purchase for EUR	49,907	1,731
GBP – sale for EUR	2,717	5,003
USD – sale for CHF	4,435	0
USD – sale for CAD	1,348	9,086
CNY – sale for EUR	924	391
JPY – sale for EUR	1,021	862
CAD – sale for EUR	2,188	9,715
SGD – sale for EUR	0	70
Total foreign currency sales	**53,331**	**82,503**
Total foreign currency purchases	**49,907**	**1,731**

The foreign exchange forward transactions, foreign exchange swaps and foreign exchange options, as well as the interest and currency swaps in USD, give rise to the following market values:

in thousand euros	31/12/2021	31/12/2020
Positive market values		
Derivatives with hedging relationship		
Non-current	2,957	500
Current	20	1,456
Derivatives without hedging relationship		
Non-current	21	0
Current	48	166
Total positive market values	**3,046**	**2,122**
Negative market values		
Derivatives with hedging relationship		
Non-current	492	0
Current	1,169	385
Derivatives without hedging relationship		
Non-current	155	84
Current	649	54
Total negative market values	**2,465**	**523**
Balance	**581**	**1,599**

The market values for hedging transactions for intra-group loans are included in the derivatives without hedging relationships as the underlying transaction comprising intra-group receivables and liabilities is deconsolidated. The positive market values of these derivatives as of the balance sheet date totaled 27 thousand euros (prior year: 164 thousand euros), the negative market values totaled 281 thousand euros (prior year: 138 thousand euros). The change led to an overall loss of 281 thousand euros (prior year: loss of 132 thousand euros) which was recognized in the financial result through profit or loss.

Cumulative losses in derivatives with a hedging relationship in the sum of 957 thousand euros (prior year: cumulative earnings in the amount of 1,269 thousand euros) were recognized in equity outside profit or loss as of December 31, 2021. Of the profits recognized in equity outside profit or loss as of December 31, 2020, in 2021 the sum of 769 thousand euros (prior year: losses in the amount of 2,278 thousand euros) was reclassified from equity to profit and loss. This type of reclassification is normally associated with the recognition of the underlying transaction (for example, recognition of revenue and booking of the corresponding receivable on billing) through profit or loss so the targeted balancing effect of concluding the hedging transaction is reflected in the income statement.

The foreign currency hedging transactions hedge against foreign exchange currency risks in the sum of 40,069 thousand euros with a time frame up to the end of 2022. Foreign currency risks with a time frame up to the end of 2026 were hedged in the sum of 63,170 thousand euros.

The main foreign currency exchange transactions of the Jenoptik Group involve US dollars. The table below shows a breakdown of the USD-based translation and transaction risks, as well as the net risk position of the Group:

in thousand euros	31/12/2021	31/12/2020
Financial assets	50,646	24,355
Financial debts	55,497	5,052
Interest and currency swap USD	49,907	0
Translation risk	**−54,758**	**19,303**
Planned cash flows	223,709	197,958
Cash flows hedged through derivatives	46,481	64,731
Transaction risk	**177,228**	**133,227**
Net risk item	**122,470**	**152,530**

The marked increase in financial assets held in US dollars compared to the prior year is mainly due to the increase in trade receivables and receivables arising from due, requested advance payments in US dollars. The increase in financial liabilities is primarily attributable to the debenture bond in the sum of 59,000 thousand US dollars.

The increase in planned cash flows in US dollars compared to the prior year is attributable to the targeted international growth of the Jenoptik Group.

As of the balance sheet date there was a US dollar-based net risk item in the sum of 122,470 thousand euros (prior year: 152,530 thousand euros). A change in the US dollar exchange rate would have the following consequences:

	EUR/USD rate	Change in the net risk item (in thousand euros)
Reporting date 31/12/2021	1.1326 (1.2271)	
Increase by 5 percent	1.1892 (1.2885)	5,832 (7,263)
Reduction by 5 percent	1.0760 (1.1657)	−6,446 (−8,028)
Increase by 10 percent	1.2459 (1.3498)	11,134 (13,866)
Reduction by 10 percent	1.0193 (1.1044)	−13,608 (−16,948)

The figures in brackets relate to the prior year

8.3 Other financial obligations

As of December 31, 2021 obligations existed in the sum of 192,731 thousand euros (prior year: 116,297 thousand euros, excluding VINCORION 71,887 thousand euros), in particular order commitments for inventories in the sum of 130,935 thousand euros (prior year: 61,942 thousand euros, excluding VINCORION 34,195 thousand euros) and for intangible assets and property, plant, and equipment in the sum of 30,290 thousand euros (prior year: 17,342 thousand euros, excluding VINCORION 16,480 thousand euros) as well as other financial obligations of 31,458 thousand euros (prior year: 36,966 thousand euros, excluding VINCORION 21,165 thousand euros).

The increase in order commitments for inventories is attributable in particular to the acquisition of BG Medical and the SwissOptic Group.

The increase in order commitments for intangible assets and property, plant, and equipment of 12,948 thousand euros to 30,290 thousand euros is mainly attributable to orders for a new plant for the manufacture of products for the semiconductor industry (electron beam facility) at the Dresden site, orders for planning and construction services for the new canteen at the Göschwitz site and the initial consolidation of the newly acquired entities.

Excluding VINCORION, other financial liabilities increased by 10,293 thousand euros to 31,458 thousand euros, mainly as a result of the extension of a building management contract in the Corporate Center up to 2023. Furthermore, contracts were concluded for the provision of consulting and software services in connection with the site modernization and IT security, as well as for the expansion of the BI system.

Other financial liabilities also include liabilities arising from a service agreement concluded for building management services for all Jenoptik locations in Germany which has been extended for a further two years, as well as contracts for consulting services for IT security and the introduction of a new ERP system.

Loan commitments to non-consolidated associates in the sum of 47 thousand euros (prior year: 47 thousand euros) were not taken up in full.

8.4 Legal disputes

JENOPTIK AG and its group entities are involved in few court or arbitration proceedings. Provisions for litigation risks, respectively litigation expenses, were set aside in the appropriate amounts in order to meet any potential financial burdens resulting from current court or arbitration proceedings (see section "Other provisions" from page 218 on).

8.5 Related party disclosures in accordance with IAS 24

Related parties are defined in IAS 24 "Related Party Disclosures" as being entities or persons that have control over or are controlled by the Jenoptik Group to the extent that they have not already been included in the consolidated financial statements as consolidated entities as well as entities or persons that, on the basis of the Articles of Association or by contractual agreements, are able to significantly influence the financial and corporate policies of the management of JENOPTIK AG or participate in the joint management of JENOPTIK AG. Control applies if a shareholder holds more than half of the voting rights in JENOPTIK AG. The largest single shareholder of JENOPTIK AG is Thüringer Industriebeteiligungs GmbH & Co. KG, Erfurt, which directly holds a total of 11 percent of the voting rights.

Members of the Executive Board and of the Supervisory Board of JENOPTIK AG also qualify as related parties. In the fiscal year 2021, as in the prior year, no exchange of goods or of services was transacted between the entity and members of these two bodies.

The breakdown of the total remuneration of the members of the management in key positions (Executive Board and Supervisory Board), recorded in 2021 through profit or loss, is shown in the following table.

in thousand euros	2021	2020
Short-term benefits	2,647	2,221
Post-employment benefits	360	360
Share-based payment	1,121	– 23
Total	**4,128**	**2,559**

At the balance sheet date, there were outstanding commitments to members of management in key positions in the total sum of 4,047 thousand euros (prior year: 3,094 thousand euros) consisting of one-year and multi-year variable remuneration components for the Executive Board and the remuneration of the Supervisory Board.

Further information on the mandatory disclosure of the remuneration of the Executive Board and Supervisory Board is published in the section "Corporate Governance" on pages 241 et seq.

The following table shows the composition of the business relationships with non-consolidated entities, associate entities and joint ventures.

		of which	
in thousand euros	Total	non-consolidated, affiliated entities	associated entities and investments
Revenue	1,024	12	1,012
	(997)	(25)	(972)
Purchased services	1,959	361	1,598
	(947)	(93)	(854)
Receivables from operating activities	310	36	274
	(277)	(104)	(173)
Liabilities from operating activities	0	0	0
	(66)	(12)	(54)
Financial liabilities	3,022	0	3,022
	(2,800)	(0)	(2,800)
Loans granted	10	0	10
	(10)	(0)	(10)

The figures in brackets relate to the prior year

9 Events after the Balance Sheet Date

The JENOPTIK AG Executive Board approved the submission of these Consolidated Financial Statements to the Supervisory Board on March 16, 2022. The Supervisory Board is responsible for reviewing and approving the Consolidated Financial Statements at its meeting on March 25, 2022.

Dividends. According to the Stock Corporation Act, the amount available for a dividend payment to the shareholders is based on the accumulated profit of the parent company JENOPTIK AG, as determined by the regulations of the HGB. For the fiscal year 2021, JENOPTIK AG's accumulated profit totaled 46,043,833.67 euros, comprising net profit for 2021 in the amount of 16,043,833.67 euros plus retained profits of 30,000,000.00 euros.

The Executive Board recommends to the Supervisory Board that for the 2021 fiscal year past a dividend of 0.25 euros per qualifying no-par value share be proposed at the 2022 Annual General Meeting (prior year: 0.25 euros). This would mean that a sum of 14,309,528.75 euros from JENOPTIK AG's accumulated profits in the 2021 fiscal year is to be distributed. Of JENOPTIK AG's remaining accumulated profits, a sum of 11,734,304.92 euros will be allocated to revenue reserves and a sum of 20,000,000.00 euros carried forward to the new account.

New group structure for the first quarter of 2022. With the new growth agenda "More Value", Jenoptik will further accelerate the transformation to a globally leading, pure photonics group. As part of its realignment, the Group is bundling its core photonics business into the two new divisions Advanced Photonic Solutions (business with industrial customers) and Smart Mobility Solutions (business with public clients). The previous Light & Optics and Light & Production divisions will be merged into the new Advanced Photonic Solutions division and the non-photonic activities, particularly those geared to the automotive market, will be separated.

In the future, these business activities will be managed within the Jenoptik Group under the Non-Photonic Portfolio Companies as independent brands (including Hommel, Prodomax and INTEROB). The former Light & Safety division will become the Smart Mobility Solutions division. These two new divisions focus on the three core markets of semiconductor & electronics, life science & medical technology and smart mobility. The new structure will be implemented during the first quarter of 2022.

Ukraine war. The war in Ukraine with the associated sanctions can primarily affect the supply of energy and its price development as well as the short-term availability of raw materials and logistics services. Likewise, the prohibition of financial transactions can also affect the procurement or sale of sanction-free goods. This can have a negative impact on both production costs and productivity in parts of our value chains and can have a decisive impact on overall economic development in Jenoptik's growth markets. At the time of reporting, the situation was still very dynamic and the effects of the war cannot be assessed conclusively. A significant increase in inflation rates could affect our business activities in that price increases for raw materials and intermediate goods have a negative impact on our cost structure. We try to counteract this with various purchasing measures, further optimization of the internal cost structure and, if necessary, price adjustments in close cooperation with our customers.

No further events of significance occurred after December 31, 2021.

10 Required Disclosures and Supplementary Information under HGB

10.1 Required disclosures in accordance with § 315e and § 264 (3) or § 264b of the HGB

The consolidated financial statements of JENOPTIK AG were prepared in accordance with § 315e of the HGB, exempting an entity from preparing consolidated financial statements under HGB in accordance with the guidelines of the IASB. At the same time, the consolidated financial statements and combined management report are in conformity with the European Union Consolidated Accounts Directive (2013/34/EU). In order to achieve comparability with a set of consolidated financial statements prepared in accordance with the commercial regulations of the HGB, all of the required disclosures and explanations under the HGB as well as any required disclosures above and beyond those needed to be in compliance with IFRS are published.

Through having been included in the consolidated financial statements of JENOPTIK AG, the following fully consolidated German associates have made use of the simplification relief measures defined in § 264 (3) or § 264b of the HGB:

- JENOPTIK Advanced Systems GmbH, Altenstadt
- JENOPTIK Automatisierungstechnik GmbH, Jena
- JENOPTIK Industrial Metrology Germany GmbH, Villingen-Schwenningen
- JENOPTIK Optical Systems GmbH, Jena
- JENOPTIK Power Systems GmbH, Altenstadt
- JENOPTIK Robot GmbH, Monheim am Rhein
- SAALEAUE Immobilien Verwaltungsgesellschaft mbH & Co. Vermietungs KG, Pullach im Isartal
- Trioptics GmbH, Wedel

10.2 Number of employees and personnel expenses

The breakdown of the average number of employees is presented as follows:

Employees	2021	2020
Light & Optics	1,972	1,489
Light & Production	895	1,033
Light & Safety	484	475
Others [1]	971	1,052
Total	**4,322**	**4,049**

[1] Including discontinued operation VINCORION

In addition, in the fiscal year 2021 an average of 175 trainees (prior year: 161) were employed.

The average was determined in accordance with the requirements of § 267 (5) HGB [German Commercial Code] for the description of the size categories.

The breakdown of the personal expenses of the continuing and discontinued operations is as follows:

in thousand euros	1/1–31/12/2021	1/1–31/12/2020
Wages and salaries	282,951	246,279
Social security contributions and costs for assistance	47,813	42,710
Expenses for pensions	2,644	2,060
Total	**333,408**	**291,049**

10.3 Financial statement auditor fees

The fees for the services rendered by our auditor, as well as by its affiliates and network companies, amounted to:

in thousand euros	1/1–31/12/2021	1/1–31/12/2020
Financial statement audit services	1,565	1,377
Other services	0	22
Other attestation services	21	29
Tax consulting services	23	8
Total	**1,609**	**1,436**

The fees for the financial statement audit services relate to expenses for the audit of the annual and consolidated financial statements of the JENOPTIK AG as well as the statutory and voluntary audits of the financial statements of the subsidiaries included in the consolidated financial statements.

Other attestation services of the auditor were rendered as part of the attestation of key financial figures, as well as certifications under the Renewable Energies Act and according to the European Market Infrastructure Regulation (EMIR). Tax advice was mainly given in the area of transfer prices.

Of the total expenses, financial statement audit services of 1,040 thousand euros (prior year: 862 thousand euros), other services of 21 thousand (prior year: 22 thousand euros) other attestation services of 21 thousand euros (prior year: 29 thousand euros), as well as tax consulting services of 18 thousand euros (prior year: 8 thousand euros) are attributable to the auditors of the consolidate financial statements Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Germany.

11 Corporate Governance

11.1 German Corporate Governance Code

In December 2021, the Executive Board and Supervisory Board of JENOPTIK AG submitted a declaration of conformity in accordance with § 161 of the German Stock Corporation Act as required by the recommendations of the Government Commission's German Corporate Governance Code in the version dated December 16, 2019. The declaration of conformity has been made permanently accessible to shareholders on the JENOPTIK AG website under www.jenoptik.com in the section Investors / Corporate Governance. The declaration can also be viewed in the offices of JENOPTIK AG (Carl-Zeiss-Straße 1, 07743 Jena, Germany).

11.2 Executive Board

The following persons were appointed as members of the Executive Board in the fiscal year 2021:

	other mandates with:
Dr. Stefan Traeger President & CEO	JENOPTIK North America, Inc., USA (GI, Chairman, CCB) JENOPTIK (Shanghai) Precision Instrument and Equipment Co., Ltd., Shanghai, China (GI, Chairman, CCB) JENOPTIK (Shanghai) International Trading Co., Ltd., China (GI, Member, CCB) Prodomax Automation Ltd., Canada (GI, Chairman, CCB) JENOPTIK Korea Corp., Ltd., Korea (GI, Member, CCB) JENOPTIK JAPAN Co. Ltd., Japan (GI, Member, CCB) TELSTAR-HOMMEL Co., Ltd., Korea (GI, Member, CCB)
Hans-Dieter Schumacher Member of the Executive Board of JENOPTIK AG	JENOPTIK (Shanghai) Precision Instrument and Equipment Co., Ltd; China (GI, Member, CCB) JENOPTIK (Shanghai) International Trading Co., Ltd., China (GI, Member, CCB) JENOPTIK North America, Inc., USA (GI, member, CCB) JENOPTIK Traffic Solutions Switzerland, Switzerland (GI, Chairman, CCB) Prodomax Automation Ltd., Canada (GI, member, CCB)

Abbreviations: CCB – comparable controlling body, GI – Group internal mandate

The total remuneration granted to the members of the Executive Board in accordance with Section 314 No. 6 HGB in the fiscal year 2021 totaled 2,781 thousand euros (prior year: 2,294 thousand euros). In addition to fixed remuneration, this includes annual variable remuneration and fringe benefits (contributions to accident insurance and the provision of company cars) and contributions to pension schemes. It also includes the fair value of the 30,273 (prior year: 32,620) performance shares provisionally allocated in the fiscal year and 161 (prior year: 186) LTIs according to the Executive Board remuneration system in effect until 2017 at the respective grant date.

Retirement benefits paid to former Executive Board members, or their survivors amounted to 185 thousand euros (prior year: 218 thousand euros). As of the balance sheet date, the pension provisions for former Executive Board members totaled 3,108 thousand euros (prior year: 3,371 thousand euros). The expenses recorded for these existing provisions in the fiscal year 2021 comprised interest expenses in the sum of 20 thousand euros (prior year: 26 thousand euros).

In the fiscal year 2021 – as in the preceding years – no loans or advances were granted to the members of either the Executive Board or the Supervisory Board. Consequently, there were no loan redemption payments.

11.3 Supervisory Board

The following persons were appointed to the Supervisory Board in fiscal year 2021:

	Member of:	Other mandates with:
Matthias Wierlacher (Chairman) Chairman of the Board of the Thüringer Aufbaubank Appointed in 2012, Chairman since July 2015	• Personnel Committee (Chairman) • Investment Committee (Chairman) • Nominations Committee (Chairman) • Mediation Committee (Chairman)	• Mittelständische Beteiligungsgesellschaft Thüringen mbH (not listed, SB member) • bm-t beteiligungsmanagement thüringen GmbH (GI, not listed, SB Chairman) • ThüringenForst – Public Body – (SB member, not listed, CCB)
Stefan Schaumburg[1] (Vice Chairman since October 16, 2020) Head of the Functional Department and Secretary of the Management Board of the IG Metall Union, Frankfurt Appointed in 2012	• Personnel Committee • Investment Committee • Mediation Committee	• Dr. Ing. h.c. F. Porsche AG (SB member, not listed, since February 24, 2021) • Porsche Holding Stuttgart GmbH (SB member, not listed, since March 1, 2021)
Astrid Biesterfeldt[1] Director Corporate Development at JENOPTIK Advanced Systems GmbH Appointed in 2014	• Audit Committee	None
Evert Dudok Executive Vice President Connected Intelligence, Airbus Appointed in 2015	• Personnel Committee (since January 1, 2022) • Nominations Committee (since January 1, 2022) • Mediation Committee (since January 1, 2022)	• EURASSPACE Gesellschaft für Raumfahrttechnik mbH (GI, not listed, SB member up to December 31, 2021)
Elke Eckstein CEO Enics AG, Switzerland Appointed since 2017	• Investment Committee	• Enics Eesti AS, Estonia (GI, not listed, CCB, Chairman) • Enics Electronics (Beijing) Ltd., China (GI, not listed, CCB member) • Enics Electronics (Suzhou) Ltd., China (GI, not listed, CCB member) • Enics Finland Oy, Finland (GI, not listed, CCB, Chairman) • Enics Hong Kong Ltd., Hong Kong (GI, not listed, CCB, Chairman and member up to September 1, 2021) • Enics Raahe Oy, Finland (GI, not listed, CCB, Chairman) • Enics Schweiz AG, Switzerland (GI, not listed, CCB, Chairman) • Enics Slovakia s.r.o., Slovakia (GI, not listed, CCB, member) • Enics Sweden AB, Sweden (GI, not listed, CCB, Chairman and member up to May 28, 2021) • Enics Malaysia Sdn. Bhd. (GI, not listed, CCB, since July 14, 2020) • Saferoad SRH Holding AS, Norway (not listed, CCB, member) • KK Wind Solutions A/S, Denmark (not listed, CCB, member) • BE Semiconductor Industries NV, Netherlands (listed GI, CCB, member since September 2021)
Prof. Dr. Dr. h.c. Ursula Keller Professor at the ETH Zurich, Switzerland Appointed since January 21, 2022		None

	Member of:	Other mandates with:
Thomas Klippstein[1] Chairman of the Group Works Council of Jenoptik Appointed in 1996	• Personnel Committee • Audit Committee	None
Dörthe Knips[1] Chairman of the Local Works Council for JENOPTIK Optical Systems GmbH Jena & Dresden Appointed in 2017	• Investment Committee	None
Dieter Kröhn[1] Production planner at JENOPTIK Advanced Systems GmbH Appointed October 1999 to June 2007, reappointed since December 2010	• Investment Committee • Mediation Committee	None
Doreen Nowotne Independent corporate management consultant Appointed in 2015	• Audit Committee (Vice Chairman) • Investment Committee	• Brenntag AG (listed, SB Chairman) • Lufthansa Technik AG (not listed, SB member) • Franz Haniel & Cie. GmbH (not listed, SB Chairman)
Heinrich Reimitz Member of the Management of HPS Holding GmbH, Austria Appointed in 2008	• Audit Committee (Chairman) • Personnel Committee • Nominations Committee	• Ühinenud Farmid AS, Estonia (not listed, CCB, member up to January 6, 2022)
Frank-Dirk Steininger[1] District Secretary IG Metall Mitte in Frankfurt am Main Appointed since 2020	• Personnel Committee	None
Prof. Dr. rer. nat. habil., Dipl.-Physiker Andreas Tünnermann Master's in Physics Director of the Institute for Applied Physics and university lecturer in applied physics at the Friedrich Schiller University Jena, and Head of the Fraunhofer Institute for Applied Optics and Precision Mechanics, Jena Appointed in 2007 (up to December 31, 2021)	• Personnel Committee (up to December 31, 2021) • Mediation Committee (up to December 31, 2021) • Nominations Committee (up to December 31, 2021)	• Docter Optics SE (not listed, CCB, member) • ARRI AG (not listed, SB Vice Chairman)

[1] Employee representative
Abbreviations: SB – Supervisory Board, CCB – Comparable Controlling Body, GI – Group internal appointment)

Supervisory Board Remuneration

The remuneration for the members of the Supervisory Board totaled 782 thousand euros (prior year: 636 thousand euros; fixed remuneration and committee remuneration including attendance fees).

12 List of Shareholdings in the Jenoptik Group as at December 31, 2021 in accordance with § 313 (2) HGB

No.	Name and registered office of the entity	Share of JENOPTIK or the direct shareholder as % of	Equity 31/12/2021 thousand euros [1]	Result 2021 thousand euros [1]
	1.1. Affiliated consolidated companies – direct investments			
1	JENOPTIK Robot GmbH, Monheim am Rhein, Germany	100		
2	JENOPTIK Industrial Metrology Germany GmbH, Villingen-Schwenningen, Germany	100		
3	JENOPTIK Automatisierungstechnik GmbH, Jena, Germany	100		
4	JENOPTIK Advanced Systems GmbH, Altenstadt, Germany	100		
5	JENOPTIK Optical Systems GmbH, Jena, Germany	100		
6	SAALEAUE Immobilien Verwaltungsgesellschaft mbH & Co. Vermietungs KG, Jena, Germany, in liq. [2]	100		
7	JENOPTIK North America, Inc., Jupiter (FL), USA	100		
8	JENOPTIK Asia-Pacific Pte. Ltd., Singapore, Singapore	100		
	– indirect investments			
9	JENOPTIK Traffic Solutions Switzerland AG, Uster, Switzerland	100		
10	JENOPTIK ROBOT MALAYSIA SDN BHD, Kuala Lumpur, Malaysia, in liq. [2]	100		
11	Jenoptik Benelux B.V., Riel, The Netherlands	100		
12	JENOPTIK UK Ltd., Milton Keynes, Great Britain	100		
13	JENOPTIK Traffic Solutions UK Ltd., Camberley, Great Britain	100		
14	JENOPTIK Industrial Metrology France SAS, Bayeux Cedex, France	100		
15	JENOPTIK Power Systems GmbH, Altenstadt, Germany	100		
16	Hörsel GmbH (formerly PHOTONIC SENSE GmbH), Eisenach, Germany [11]	100		
17	PHOTONIC SENSE, INC., Nashua (NH), USA	100		
18	Asam Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG, Mainz, Germany	94		
19	Traffipax, LLC, Jupiter (FL), USA	100		
20	JENOPTIK Automotive North America, LLC, Rochester Hills (MI), USA	100		
21	JENOPTIK INDUSTRIAL METROLOGY DE MEXICO, S. DE R.L. DE C.V., Saltillo, Mexico	98		
22	JENOPTIK Optical Systems, LLC, Jupiter (FL), USA	100		
23	JENOPTIK Advanced Systems, LLC, El Paso (TX), USA	100		
24	Prodomax Automation Ltd., Barrie, Canada	100		
25	JENOPTIK (Shanghai) Precision Instrument and Equipment Co., Ltd., Shanghai, China	100		
26	JENOPTIK (Shanghai) International Trading Co., Ltd., Shanghai, China	100		
27	JENOPTIK Australia Pty Ltd, Sydney, Australia	100		
28	JENOPTIK Korea Corporation, Ltd., Pyeongtaek, Korea	66.66		
29	JENOPTIK JAPAN Co. Ltd., Yokohama, Japan	100		
30	JENOPTIK India Private Limited, Bangalore, India	100		
31	BROXBURN, S.L., Madrid, Spain	100		
32	INTEROB, S.L., Valladolid, Spain	100		
33	INTEROB RESEARCH & SUPPLY, S.L., Valladolid, Spain	100		
34	Trioptics GmbH, Wedel, Germany	100		
35	JENOPTIK Berlin GmbH, Berlin, Germany	100		
36	TRIOPTICS SINGAPORE PTE. LTD., Singapore	100		

No.	Name and registered office of the entity	Share of JENOPTIK or the direct shareholder as % of	Equity 31/12/2021 thousand euros [1]	Result 2021 thousand euros [1]
37	Trioptics Optical Test Instruments (China) Ltd., Beijing, China	51		
38	Trioptics Hong Kong Limited, Hong Kong	100 [10]		
39	Trioptics Japan Co., Ltd., Shizuoka, Japan	61.25		
40	Trioptics Korea Co., Ltd., Suwon, Korea	60		
41	TRIOPTICS TAIWAN LTD. Taoyuan, Taiwan	51		
42	Trioptics Inc., Rancho Cucamonga, California, USA	100		
43	TRIOPTICS Scandinavia OY, Tampere; Finland	100		
44	JENOPTIK Medical GmbH (formerly BG Medical Applications GmbH), Berlin, Germany	100		
45	SwissOptic AG, Heerbrugg, Switzerland	100		
46	SwissOptic (Wuhan) Co., Ltd., Wuhan, China	100		
47	Berliner Glas Wuhan Trading Co., Ltd., Wuhan, China	100		
	1.2 Affiliated, non-consolidated companies – direct investments			
48	FIRMICUS Verwaltungsgesellschaft mbH Jena, Germany, in liq [2]	100 [8]	36	4
49	SAALEAUE Immobilien Verwaltungsgesellschaft mbH, Jena, Germany, in liq. [2]	100 [9]	36	2
50	KORBEN Verwaltungsgesellschaft mbH, Grünwald, Germany, in.liq. [2]	100	31 [4]	1 [4]
	– indirect investments			
51	JENOPTIK do Brasil Instrumentos de Precisão e Equipamentos Ltda., Sao Paulo, Brazil	100	−796 [4]	−343 [4]
52	JENOPTIK Saudi Arabia, LLC, Jeddah, Saudi-Arabia, in liq. [2]	100	9 [5]	−37 [5]
53	Polar Optics Oy, Oulu, Finland	100	1	0
	2. Associated entities valued at equity			
54	TELSTAR-HOMMEL CORPORATION, Ltd., Pyeongtaek, Korea	33.33	18,257 [4]	1,124 [4]
55	HILLOS GmbH, Jena, Germany	50	16,228	1,440
56	Trioptics France S.A.R.L., Villeurbane, France	50	221 [4]	−186 [4]
	3. Investments – direct investments			
57	JENAER BILDUNGSZENTRUM GmbH SCHOTT CARL ZEISS JENOPTIK, Jena, Germany	33.33	1,571 [4]	246 [4]
	– indirect investments			
58	JT Optical Engine Verwaltungs GmbH, Jena, Germany, in liq. [2]	50 [7]	24	0
59	JT Optical Engine GmbH + Co. KG, Jena, Germany, in liq. [2]	50 [7]	507	−1
60	JENOPTIK Robot Algérie SARL, Algiers, Algeria	49	178 [4]	−34 [4]
61	HOMMEL CS s.r.o., Teplice, Czech Republic	40	1,030 [4]	93 [4]
62	Zenteris GmbH, Jena, Germany, in i. [3]	24.9 [7]	[6]	[6]

[1] Details from annual financial statements in foreign currency converted at the rate on the qualifying date or at the average rate of the respective year
[2] in. liq. = in liquidation
[3] i.I. = in insolvency
[4] Details for 2020 financial statements
[5] Details as at March 31, 2018
[6] Details not available
[7] Deviating fiscal year as of June 30
[8] Deviating fiscal year as of September 30
[9] Short fiscal year from January 1 to September 30, 2021
[10] indirect investment through Trioptics Optical Test Instruments (China) Ltd.
[11] in liquidation with effect since January 1, 2022

Jena, March 16, 2022
JENOPTIK AG

The Executive Board