Consolidated Financial Statements

» in short «

At the end of the fiscal year
Jenoptik had

4,043

employees in total.

With this increase of more than 10 percent compared with the prior year, the number of employees also reached a new record figure. More than half of the new employees joined Jenoptik as a result of the acquisitions made.

Notes

1 Presentation of the Group Structure

1.1 Parent company

The parent company is JENOPTIK AG headquartered in Jena and is registered in the Commercial Register at the local court 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 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 205 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 2018 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. If not otherwise specified, all amounts are presented in thousand euros. Please note that there may be rounding differences as compared to the mathematically exact amounts (monetary units, percentages, etc.). The statement of comprehensive income was prepared in accordance with the cost of sales method.

The fiscal year of JENOPTIK AG and those of the 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 comprehensive income and the statement of financial postition. The classifications used for these items are listed in the Notes.

Changes in accounting policies

The following International Financial Reporting Standards were applied for the first time in the fiscal year:

IFRS 9 "Financial Instruments". This standard replaces all earlier versions of IAS 39 for the classification and valuation of financial assets and liabilities as well as for the accounting treatment for hedging instruments. This new version of the standard contains revised guidelines for the classification and valuation of financial instruments. These include a new model for anticipated credit defaults for calculating the impairment loss to financial assets as well as the new general accounting regulations for hedging transactions. This standard also adopts the IAS 39 guidelines for the recognition and derecognition of financial instruments. IFRS 9 is to be adopted in fiscal years beginning on or after January 1, 2018. With the exception of the accounting for hedging transactions, the standard is to be applied retrospectively but there is no requirement for the disclosure of comparison information. Apart from a few exceptions, the regulations for the accounting treatment of hedging transactions must be applied in general prospectively.

This gave rise to the following overall effects on the statment of financial position, income statement and equity for Jenoptik:

a) Classification and valuation
The Group will take advantage of the option, which can be exercised on an individual case basis, of applying a valuation, outside of profit or loss, at fair values for equity instruments which were previously valued as available-for-sale assets. As a result, all fluctuations in the value of these equity instruments will now be recognized outside of profit or loss in other comprehensive income, without the possibility of a later reclassification through profit or loss. Under IFRS 9, there are no material changes with regard to assets valued at amortized procurement costs. Loans and trade receivables are held in order to collect the contractual cash flows which exclusively represent redemption of and interest payments on the outstanding nominal amounts. Jenoptik analyzed the contractual cash flows and came to the conclusion that the cash flow requirement is being met and no reclassification is necessary.

b) Impairment losses
A provision for losses in the sum of 0.6 million euros for current cash investments and bank deposits to cover the debtor default risk on the date of first application was recognized for the first time. The Group also applies the simplified approach to determine the Expected Credit Loss over the entire term for all trade receivables.

c) Accounting for hedging transactions
The Group has determined that all hedging transactions currently designated as effective hedging relationships on the date of first application, also meet the criteria of IFRS 9 for hedge accounting. Since IFRS 9 does not provide for any change in the general principles for the accounting of effective hedging relationships, no material changes arise with regard to the accounting of hedging relationships in the consolidated financial statements.

The amended classification and valuation of financial assets has led to the following implications on the date of first application:

There were no implications for financial liabilities on the date of first application.

The Group recorded the transition effects as at January 1, 2018 on a cumulative basis in equity. With consideration of an increase of deferred tax assets in the sum of 173 thousand euros, other reserves reduced by 409 thousand euros.

The application of IFRS 9 had only an insignificant impact on the statement of financial position and income statement for the fiscal year 2018. There were also no significant impacts on the cash flow statement.

IFRS 15 "Revenue from Contracts with Customers". IFRS 15 introduces a five-stage model for accounting of revenue from contracts with customers. Under IFRS 15, revenue is recorded in the amount of the consideration in return which an entity can expect for the transfer of goods or services to a customer (the transaction price). The new standard replaces all existing guidelines for recording revenues such as IAS 18 Revenue,

Transition of financial assets from IAS 39 to IFRS 9

in thousand euros	Valuation category according to IAS 39 [1]	Carrying amounts according to IAS 39 as at 31/12/2017	Revaluation according to the application of the expec-ted-loss model	Carrying amounts according to IFRS 9 as at 1/1/2018	Valuation category according to IFRS 9 [1]
Financial investments					
Cash desposits	LAR	64,169	−214	63,955	AC
Shares in unconsolidated associates and investments [2]	AFS	2,812		2,812	FVTOCI
Aviable-for-sale financial assets [3]	AFS	867		867	AC
Loans granted	LAR	730		730	AC
Financial assets held to maturity	HTM	408		408	AC
Trade receivables	LAR	136,017		136,017	AC
Other financial assets					
Receivables from lease agreements		340		340	–
Derivatives with hedging relations		2,962		2,962	–
Derivates without hedging relations	FVTPL	2,003		2,003	FVTPL
Miscellaneous financial assets	LAR	2,322		2,322	AC
Cash and cash equivalents	**LAR**	**132,310**	**−368**	**131,942**	**AC**

[1] LAR = Loans and receivables
AFS = Available for sale
HTM = Held to maturity
FVTPL = Fair value through Profit & Loss
AC = Amortized acquisition costs
FVTOCI = Fair value through other comprehensive income
[2] Reduction in the sum of 1,225 thousand euros due to changes in the group of entities consolidated see 2.1 from page 146
[3] Full consolidation after acquisition of ASAM, see 2.4 from page 150 on

IAS 11 Construction Contracts and IFRIC 13 Customer Loyalty Programs. For the fiscal year commencing on January 1, 2018, the modified retrospective method was applied.

Clarifications on IFRS 15 "Revenue from Contracts with Customers". The clarifications explain implementation issues which were addressed by the Joint Transition Group for Revenue Recognition. These questions relate to the identification of performance obligations, the application guidelines for principal-agent relationships and licenses for intellectual property, as well as the transitional provisions. In addition, the aim of the amendments is to ensure a more consistent approach in the implementation of IFRS 15 and to reduce the costs and complexity associated with its application. Together with the main standard the changes came into effect on January 1, 2018 and essentially affect Jenoptik as follows:

a) Customer-specific development projects, followed by volume production: In the past, revenues were recognized after delivery of the product, unless IAS 11 applied (successive contracts to supply). The Group concludes that in most cases development services under IFRS 15 are categorized as separate performance obligations over the period of development as revenue and no longer recognized through volume production. Therefore, a revenue portion of the future volume production has to be anticipated and recorded as revenue. In fiscal year 2018, this led to a reduction in revenue of 4.2 million euros and a reduction in cost of sales by 5.0 million euros.

b) Customer-specific volume production: Up to and including the fiscal year 2017, revenue was recognized with the transfer of risk after delivery or acceptance by the customer. Under IFRS 15, Jenoptik concludes that certain contracts are to be accounted for in accordance with the requirements of IFRS 15.35 (c) over time, leading to revenue being recognized earlier. In fiscal year 2018, these transactions led to an increase in revenue of 2.6 million euros with an increase in cost of sales of 1.4 million euros.

In addition, the application of IFRS 15 in individual cases led to a change in revenue recognition for customer contracts previously recognized as construction contracts in accordance with IAS 11, which are now recognized at a point in time. In fiscal year 2018, this led to a reduction in revenue of 0.6 million euros and a reduction in cost of sales by 0.2 million euros.

Through the acquisition of Prodomax Automation Ltd. in the 3rd quarter of 2018, the volume of business transactions that would have been recognized over time under IAS 11 in accordance with the POC method but which under IFRS 15 must be recognized at a point in time, has increased considerably. A hypothetical comparison with the accounting standards applicable in 2017 results in higher revenues of 13.7 million euros for the 2018 fiscal year, as substantial performance obligations were satisfied in the period between the acquisition and December 31, 2018. Cost of sales rose accordingly by 12.2 million euros.

In addition, revenue increased slightly in fiscal year 2018 due to further effects arising from the application of IFRS 15, including from the reallocation of the consideration between performance obligations.

The Group recognized the transition effects cumulatively in equity as of January 1, 2018 for all customer orders not yet completed at that date (modified retrospective method). Overall, the initial application of IFRS 15 led to the following changes in the items in the consolidated statement of financial position:

in thousand euros	1/1/2018
Non-current assets	1,007
Deferred tax assets	1,007
Current assets	−2,520
Inventories	−8,484
Current trade receivables	−14,859
Contract assets	20,824
Total assets	**−1,512**
Equity	−2,467
Other Reserves	−2,466
Non-controlling interests	−1
Non-current liabilities	19
Deferred tax liabilities	19
Currents liabilities	935
Other current provisions	−1,581
Contract liabilities	30,685
Other current non-financial liabilities	−28,169
Total equity and liabilities	**−1,512**

The items in the consolidated statement of financial position as well as the consolidated income statement for fiscal year 2018 were influenced by the application of IFRS 15 compared to the accounting and valuation methods applied in fiscal year 2017 as follows:

in thousand euros	31/12/2018
Non-current assets	358
Deferred tax assets	358
Current assets	15,756
Inventories	−4,458
Current trade receivables	−7,049
Contract assets	27,263
Total assets	**16,114**
Equity	1,410
Other Reserves	1,410
Non-current liabilities	982
Deferred tax liabilities	982
Currents liabilities	13,722
Other current provisions	−1,506
Current trade payables	−918
Contract liabilities	53,273
Other current non-financial liabilities	−37,128
Total equity and liabilities	**16,114**

in TEUR	31/12/2018
Revenue	11,860
Cost of sales	6,371
Gross profit	**5,489**
EBIT	**5,489**
Earnings before tax	**5,489**
Income taxes	−1,612
Earnings after tax	**3,877**
Result from non-controlling interests	1
Earnings attributable to shareholders	3,876
Earning per share in euros (diluted = undiluted)	**0.07**

In addition to changes in the consolidated statement of financial position due to a differing recognition of revenue compared to the accounting policies applied in 2017, extensive reclassifications were made to the new balance sheet items of contract assets and contract liabilities, in particular the reclassification of advances received from other current non-financial liabilities as well as the first-time disclosure of due advance payment requests in the statement of financial position.

The effects on the statement of cash flows for the fiscal year as at December 31, 2018 only refer to the changes in earnings before tax and to the change in the working capital and other balance sheet items. However, there was no impact on cash flows from operating activities and the free cash flow. Cash flows from investing and financing activities were also unaffected.

Furthermore, for Jenoptik, the application of IFRS 15 led to significant additional information in the Notes with regard to type, amount, timing and uncertainty of the revenue and cash flows arising from contracts with customers. This information is contained in the Sections "Revenue" from page 160, "Contract assets" from page 175 and "Contract liabilities" from page 186.

Amendments to IFRS 2: Classification and valuation of share-based payment agreements. The IASB has published an amendment to IFRS 2 "Share-based payment" which addresses three main areas: a) the effects of vesting conditions on the valuation of share-based payment transactions with cash settlement, b) the classification of share-based payment transactions with net fulfillment clauses with a legal obligation to the deduction of withholding tax and c) the accounting of share-based payment transactions with settlement in cash in the event of a modification of their conditions leading to a classification as a share-based payment transaction with equity settlement. The amendment is to be applied for fiscal years beginning on or after January 1, 2018. Early application is allowed. This amendment had no material effect on the consolidated financial statements.

Amendments to IAS 40 "Investment property". The amendment to IAS 40 relates to the classification of property which has not yet been completed and makes clear in which cases the classification of an investment property begins or ends if the property is still under construction or in development. The amendment is to be applied for fiscal years beginning on or after January 1, 2018. This amendment had no material effect on the consolidated financial statements.

Consolidated Financial Statements 133 – 206

IFRS Improvements (2014–2016). The Annual Improvements Project has made changes to various standards. This also affects the IFRS 1 and IFRS 28 standards. The amendments to IFRS 1 cover the deletion of the remaining, temporary relief regulations for first-time users. The amendments to IAS 28 entail clarifications. The date on which this part of the Improvement Project came into effect was January 1, 2018. These amendments had no material effects on the consolidated financial statements.

IFRIC 22 "Foreign currency transactions and prepaid considerations". The IASB has clarified the date for calculating the exchange rate for the conversion of transactions in a foreign currency which include advance payments received or paid. The amendment is to be applied for fiscal years beginning on or after January 1, 2018. This amendment had no material effect on the consolidated financial statements.

The amendments of IFRS 4: Application of IFRS 9 "Financial instruments" together with IFRS 4 "Insurance contracts" are not applicable to the Group and therefore have no influence on 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. They were applied by Jenoptik in the consolidated financial statements as of December 31, 2018. The Group has no plans to apply these standards early.

IFRS 16 "Leasing". IFRS 16 includes a comprehensive set of new rules for accounting for leases and supersedes the previous rules of IAS 17 Leases and some interpretations. The objective is to disclose the lessee's rights and obligations associated with the leases in the statement of financial position. Relief is planned for short-term leases and the leasing of objects of low-value. Lessors will continue having to account for leases by classifying them as either finance or operating leases, applying the criteria defined in IAS 17. Moreover, IFRS 16 contains further regulations on classification and disclosures in the Notes. IFRS 16 is to be adopted in fiscal years beginning on or after January 1, 2019. Early application is permitted insofar as IFRS 15 is also applied.

These changes are expected to have a significant impact on the Group as a lessee, as it has so far largely concluded contracts on movable assets as well as real estate that were accounted as operating leases.

For the first application of IFRS 16 as of January 1, 2019, the Group will apply the modified retrospective approach and value the rights of use in the amount of the continuing carrying amounts from the commencement of the leases, applying interest rates from the date of first application. As a result of this and based on the current information, the Group expects a substantial increase in fixed assets of between 50 and 55 million euros. The financial liabilities are expected to increase by between 55 and 60 million euros as the result of the first time recognition of the leasing liabilities as a discounted value of the outstanding lease payments. The difference between rights of use and leasing liabilities is expected to reduce equity by between 3.0 and 3.5 million euros, taking deferred taxes into account. The resulting increase in total assets of approximately 50 to 55 million euros is resulting in a corresponding decline in the equity ratio.

Furthermore, the change in the recognition of the leasing expenses in the income statement will lead to an improvement in the EBITDA of between 10 to 11 million euros, as well as to a smaller improvement in the EBIT of around 1.5 to 2 million euros. In the cash flow statement, payments for operating leases will in future be reported in the cash flows from financing activities which leads to an improvement of between 10 and 11 million euros in the cash flows from operating activities compared to the provisions in IAS 17.

With regard to the scope of leases arising in future periods and to be recorded in the accounts, we refer to the disclosure in the Notes 5.4 from page 171.

This is not expected to have any material effects for the Group as a lessor.

Amendments to IFRS 9: Prepayment features with negative compensation. The change clarifies that the cash flow condition is met for financial assets with negative compensation in the event of early repayment. The amendment is to be applied for fiscal years beginning on or after January 1, 2019. Early application is allowed. Due to its narrow scope, Jenoptik does not expect this amendment standard to affect the consolidated financial statements.

Amendments to IAS 28: Long-term interests in associates and joint ventures. In particular, the amendments address the question of how the requirements in IAS 28 and IFRS 9 Financial Instruments interact. They regulate the extent to which long-term interests, which are part of the net investment in the associated companies or joint ventures and to which the equity method does not apply, are covered under the scope of the two standards. These essentially make it clear that IFRS 9 must initially apply to such long-term interests. The amendments are to be applied retrospectively on January 1, 2019. Earlier application is allowed. This amendment will have no material impact on the consolidated financial statements.

IFRIC 23 "Uncertainty over income tax treatments". The interpretation is to be applied to the accounting of income taxes if there are any uncertainties regarding the treatment of income for tax purposes. The interpretation is to be applied for fiscal years beginning on or after January 1, 2019. At the balance sheet date no uncertain tax positons were known.

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

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

Amendments to IAS 19: "Plan amendment, curtailment or settlement" The changes relate to the accounting for plan amendment, curtailment or settlement that are made during a reporting period and specify how a company must define and report the effects of a plan amendment, curtailment or settlement carried out during a fiscal year. The amendments are to be applied prospectively on January 1, 2019. Earlier application is allowed.

IFRS Improvements (2015–2017). The Annual Improvements Project has made changes to various standards. The collective standard contains clarifications on IFRS 3, IFRS 11, IAS 12, and IAS 23. The effective date is January 1, 2019. These amendments will have no material effects on the consolidated financial statements.

Revised framework concept and adjustments to the cross-references in the IFRS. In connection with the publication of the extensively revised framework concept in March 2018 which came into force immediately, adjustments were also made to the cross-references in the IFRS to the framework concept or from reproductions from the framework concept. This may e.g. have an impact on previously applied accounting policies and valuation methods developed under IAS 8. The amendments are to be applied prospectively on January 1, 2020. Earlier application is permissible if all adjustments are applied.

Amendments to IFRS 3 "Definition of a business combination". The changes are intended to help companies determine whether a transaction should be recognized as a business combination or acquisition of assets, by clarifying the minimum requirements for a business combination. In order to illustrate the application of the changes, illustrative examples have also been added. The amendments are to be applied prospectively on January 1, 2020. Earlier application is allowed.

Amendments to IAS 1 and IAS 8 "Definition of materiality". The amendments specify when information is material. For the first time, the new definition of materiality takes into account the obscuring of information as a measure of materiality in terms of the information. Furthermore, information must be reasonably able to influence decisions in order to be material. The amendments were made to adapt the definition to the statements on materiality in the 2018 framework concept and to generally make them more easily applicable. The amendments are to be applied for the first time prospectively on January 1, 2020.

Amendment to IFRS 10 "Consolidated financial statements" and IAS 28 "Investments in associates and joint ventures". The amendments address a well-known inconsistency between the regulations of IFRS 10 and IAS 28 (2011) for cases when assets are to be sold to an associated company or to a joint venture or when assets are to be contributed towards an associated company or to a joint venture. The intention in the future is for the entire profit or loss from a transaction to only be recognized if the assets, either sold or contributed, constitute a business combination in accordance with IFRS 3. This applies independently of whether the transaction is designed as a share deal or an asset deal. If, by contrast, the assets do not constitute a business, then the results may only be recognized on the basis of the percentage of completion method. The date on which the amendments come into effect has been deferred by the IASB for an indefinite period. This amendment will have no material 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 that affect their recognition in the statement of financial position or in the statement of comprehensive income of the Group as well as the disclosure of contingent receivables and contingent 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. This essentially relates to:

- the assumptions and parameters for the valuation of intangible assets identified as part of the purchase price allocation (see section "Entities acquired" from page 148 f.),
- the assessment of impairment to goodwill (see section "Intangible assets" from page 166),
- determining the useful lives when valuing intangible assets, property, plant, and equipment and investment property (see section "Intangible assets" from page 166, section "Property, plant, and equipment" from page 169 and section "Investment property" from page 170),
- the method for valuing inventories, as well as for defining valuation routines and discounts, (see section "Inventories" from page 173),
- the estimate of anticipated losses as part of the valuation of financial assets (see section "Trade receivables" from page 173),
- the actuarial parameters for the valuation of provisions for pensions and similar obligations as well as the determination of the fair value of fiduciary assets (see section "Provisions for pensions and similar obligations" from page 179),
- the assumptions and methods for valuing other provisions - for example, warranty obligations and actuarial parameters of personnel provisions (see section "Other provisions" from page 183),
- the estimate of the probability of the outflow of resources from current obligations and their reporting as a contingent liability (see section "Contingent liabilities and contingent payables" from page 198),
- 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 163).

2 Consolidation Principles

2.1 The Group of entities consolidated

Along with JENOPTIK AG, all significant subsidiaries have been included fully in the consolidated financial statements and one joint operation on a proportional basis. The list of shareholdings is presented in Disclosure Note 12 from page 205.

The consolidated financial statements of JENOPTIK AG includes 40 (prior year: 35) fully consolidated subsidiaries. Of which 16 (prior year: 12) have their legal seat in Germany and 24 (prior year: 23) have theirs abroad. The consolidated entities of the Jenoptik Group include one joint operation (prior year: 1).

In fiscal year 2018, 100 percent of the shares were acquired in Prodomax Automation Ltd., Barrie (Ontario), Canada (referred to below as: Prodomax) as well as 100 percent of the shares respectively in OTTO Vision Technology GmbH, Jena, as well as in its sister company OVITEC GmbH, Jena, Germany (referred to below as: OTTO Group). In addition, in the fiscal year 94 percent of the limited partnership interest in Asam Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG, Mainz, Germany (referred to below as: ASAM). Detailed disclosures on the corporate acquisitions are provided in Note 2.4 from page 148.

In addition, RADARLUX Radar Systems GmbH, Leverkusen, Germany, which had previously not been one of the group of entities, was included in the consolidated financial statements for the first time with effect from 1 January 2018. This did not have any significant effects on the Group.

TELSTAR-HOMMEL CORPORATION, Ltd., Pyeongtaek, Korea, was also included in the consolidated financial statements as an associated company using the at-equity method as of January 1, 2018 (see Disclosure Note 5.5 from page 172).

Hillos GmbH, Jena, is included in the consolidated financial statements as a joint operation with a proportional shareholding of 50 percent in accordance with IFRS 11. This entity is a strategic customer of Jenoptik, operating in the area of construction and construction-related applications of laser technology. The following assets and liabilities are to be allocated to the Group:

in thousand euros	2018	2017
Non-current assets	578	524
Current assets	8,631	10,043
Non-current liabilities	57	37
Current liabilities	1,819	2,665
Income	22,353	22,884
Expenses	21,947	22,280

Further 11 subsidiaries, of which 9 are non-operating entities, are not consolidated as their influence on the net assets, financial and earnings position – both individually and in total – is of minor significance. The total revenue of the non-consolidated entities amounts to about 0.2 percent of group revenue; the EBIT was almost zero percent of group EBIT. The estimated effect of consolidating all the previously non-consolidated entities on the consolidated statement of financial position total is approximately 0.1 percent.

The following subsidiaries have investments held by non-controlling shareholders:

Name	Legal seat of the entity	Non-controlling interests
JENOPTIK Korea Corporation Ltd.	Korea	33.40
JENOPTIK Japan CO. Ltd.	Japan	33.42
Asam Grundstücksverwaltungs-gesellschaft mbH & Co. Vermietungs KG	Germany	6.00

For reasons of materiality, it was decided not to present separate financial information on these subsidiaries.

2.2 Consolidation procedures

The assets and liabilities of domestic and foreign entities included fully or proportionately in the consolidated financial statements are recognized uniformly in accordance with the accounting policies and valuation methods applicable throughout the entire 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 are 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 income and expenses between the consolidated entities are eliminated. The Group’s inter-company goods and services are delivered and rendered both on the basis of market prices as well as transfer prices and 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 shares 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.

There was no change in the consolidation methods applied in the prior year.

2.3 Foreign currency conversion

Annual financial statements prepared by subsidiaries in foreign currencies are converted on the basis of 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 is generally identical to that of the subsidiary’s 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 a monthly basis. 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.

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 160). This excludes currency conversion differences arising from loans and advances which constitute a part of the net investment in a foreign business operation. These differences from foreign currency conversions are recorded in other comprehensive income outside of 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:

	1 EUR =	Annual average exchange rate		Reporting date exchange rate	
		2018	2017	31/12/2018	31/12/2017
Australia	AUD	1.5799	1.4729	1.6220	1.5346
Canada	CAD	1.5302	n. a.	1.5605	n. a.
Switzerland	CHF	1.1549	1.1115	1.1269	1.1702
China	CNY	7.8073	7.6264	7.8751	7.8044
Great Britain	GBP	0.8847	0.8761	0.8945	0.8872
India	INR	80.7275	73.4967	79.7298	76.6055
Japan	JPY	130.4090	126.6541	125.8500	135.0100
Korea	KRW	1,299.2331	1,275.8233	1,277.9300	1,279.6100
Malaysia	MYR	4.7642	4.8501	4.7317	4.8536
Singapore	SGD	1.5928	1.5582	1.5591	1.6024
USA	USD	1.1815	1.1293	1.1450	1.1993

2.4 Entities acquired and sold

Acquisition of Prodomax

With the signing of the agreement on July 10, 2018 and closing on July 23, 2018, Jenoptik acquired a 100 percent stake in Prodomax Automation Ltd., Barrie (Ontario), Canada, through its US company JENOPTIK North America Inc. The acquired entity specializes in process automation for the automotive industry. The acquisition allows the Group to boost its position as a turnkey supplier of automated production solutions which Jenoptik established with the acquisition of Five Lakes Automation LLC in 2017.

The information below is based on provisional figures. The provisional nature relates to the determination of the acquired net assets because of the so far not final valuation of the intangible assets identified during the process of the purchase price allocation. The first-time consolidation will be finalized by the end of the valuation period.

The purchase price comprises a fixed cash component of 120.197 thousand Canadian dollars (78.128 thousand euros). In return, we acquired the following net assets as at the date of the initial consolidation:

in thousand euros	Total
Non-current assets	32,961
Current assets	41,675
Non-current liabilities	19,800
Current liabilities	30,833

The acquired assets include receivables with a gross value of 12,815 thousand euros, corresponding to the full fair value. There is no expectation that the acquired receivables will be unrecoverable. Also included in the acquired assets are cash and cash equivalents amounting to 3,156 thousand euros and bank liabilities assumed by Jenoptik amounting to 22,786 thousand euros.

In connection with the acquisition of shares in Prodomax, in addition to the revaluation of work in progress, a customer base, order backlog, brand and advantageous contracts were identified as intangible assets as part of the purchase price allocation. The intangible assets are amortized over periods of between three and eight years. The order backlog and newly valued work in progress will be amortized in line with the progress of the project. Goodwill in the sum of 54,125 thousand euros was also recorded for the acquisition of the skilled personnel as well as for synergy effects arising from combining automation solutions and laser processing machines, the enlarged customer base and opening up of new markets. The goodwill is to be allocated to the "Automotive" group of cash-generating units and is not tax-deductible.

Contingent liabilities were not included in the company acquisition.

Costs incurred up to December 31, 2018 for the acquisition of Prodomax totaled 1,797 thousand euros. These were shown in other operating expenses.

Acquisition of the OTTO Group

On signing the agreement on August 31, 2018, Jenoptik acquired a 100 percent stake in OTTO Vision Technology GmbH, Jena, and its sister company OVITEC GmbH, Jena, through its company JENOPTIK Industrial Metrology Germany GmbH. The OTTO Group specializes in optical testing systems for quality assurance and process optimization, as well as in complex imaging systems for applications in the field of parts measurement, inspection testing and position detection. The acquisition will enable the Jenoptik Group to strengthen its range of services for innovative metrology solutions in the Mobility Segment and further expand its market position as a systems supplier for production metrology and industrial imaging applications.

The purchase price of 7,918 thousand euros comprises a fixed cash component (6,684 thousand euros) and a conditional component (1,234 thousand euros), which is based on the attainment of agreed earnings figures in the years 2018 and 2019 and recognized at fair value. In return, we acquired the following net assets as at the date of the initial consolidation:

in thousand euros	Total
Non-current assets	2,094
Current assets	4,629
Non-current liabilities	636
Current liabilities	1,936

The acquired assets include trade receivables with a gross value of 1,497 thousand euros, corresponding to the full fair value. There is no expectation that the acquired receivables will be unrecoverable. Also included in the acquired assets are cash and cash equivalents amounting to 1,701 thousand euros.

In connection with the acquisition of shares in the OTTO Group, in addition to the revaluation of work in progress and finished goods, a customer base, order backlog, and internally produced software were identified in particular as intangible assets during the process of the purchase price allocation. The intangible assets are amortized over periods of between six months and five years. Goodwill in the sum of 3,768 thousand euros was also recorded for the acquisition of the skilled personnel as well as for synergy effects arising from the expansion of the range of services in the field of 2D and 3D metrology, from the enlarged customer base, and from the opening up of new markets. The goodwill is to be allocated to the "Automotive" group of cash-generating units and is not tax-deductible.

Contingent liabilities were not included in the company acquisition.

Costs incurred up to December 31, 2018 for the acquisition of the OTTO Group totaled 107 thousand euros. These were shown in other operating expenses.

In connection with the acquisition of shares in the OTTO Group, an agreement was signed under which JENOPTIK Industrial Metrology Germany GmbH also acquires its business premises. The transfer of ownership took place in December 2018.

Acquisition of ASAM

Under the agreement dated February 13, 2018, JENOPTIK Optical Systems GmbH, Jena, Germany, acquired 94 percent of the limited partnership interest in Asam Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG, Mainz, Germany. The company is the owner of the production and administration building used by JENOPTIK Polymer Systems GmbH at the Triptis site. The fixed cash purchase price was 5 thousand euros. Since the acquired company has no business, this does not constitute a business combination as defined in IFRS 3 but rather an acquisition of the individual assets and liabilities of the company. There were the following additions to assets and liabilities at the time of initial consolidation:

in thousand euros	Total
Non-current assets	3,452
Current assets	36
Non-current liabilities	3,001
Current liabilities	482

The non-current liabilities contain a tenant loan of JENOPTIK Polymer Systems GmbH with a fair value of 867 thousand euros that will be eliminated within the consolidated financial statements.

As a result of the inclusion of Prodomax, the consolidated financial statements include revenue in the sum 34,463 thousand euros and earnings after tax (EAT) of minus 1,068 thousand euros and from the OTTO Group revenue in the sum of 2,578 thousand euros and earnings after tax in the sum of minus 74 thousand euros. The reasons for the two negative earnings after tax items are particularly expenses incurred in the scheduled amortization of the intangible assets identified during the purchase price allocation and a higher cost of sales from the consumption of remeasured inventory.

On the premise that all corporate acquisitions had already taken place as of January 1, 2018, the Jenoptik Group would show revenue of 864,882 thousand euros and consolidated earnings after tax (EAT) of 90,453 thousand euros. In order to determine this information, it was assumed that the fair values and useful lives of the intangible assets identified in the context of the allocation of the purchase price as of January 1, 2018 are identical to those as at the initial consolidation date. These proforma figures were produced solely for comparison purposes. They do not provide a reliable indication either of the operating results that would actually have been achieved if the acquisition had been made at the beginning of the period or of future results.

With the signing the agreement on July 27, 2017 and on fulfillment of the conditions precedent on August 21, 2017, Jenoptik acquired a 100 percent stake in Five Lakes Automation LLC, Novi (MI), US through its US company JENOPTIK Automotive North America LLC. Its inclusion in the 2017 consolidated financial statements in accordance with IFRS 3 was based on provisional figures. The provisional nature concerned determination of the acquired net assets and measurement of the intangible assets identified in the process of purchase price allocation. The figures were finalized by the end of the valuation period and resulted in a change of 1,177 thousand euros to the intangible assets identified during the purchase price allocation. The development of goodwill arising from this acquisition up to December 31, 2018 is as follows:

in thousand euros	Total
Goodwill as of 1/1/2018	**5,700**
Change in goodwill after finalizing first-time consolidation	1,177
Foreign currency exchange effects	280
Goodwill as of 31/12/2018	**7,157**

In the 4th quarter of 2018, non-controlling shareholders of JENOPTIK Holdings UK Ltd. (formerly: Vysionics Ltd.) exercised existing put options. This resulted in Jenoptik's investment quota in JENOPTIK Holdings UK Ltd. and the companies controlled by this entity increasing from 96.50 to 100.00 percent with a corresponding reduction in non-controlling interests. The change is shown as an acquisition of non-controlling interests in the consolidated statement of changes in equity.

There were no sales of companies in the 2018 fiscal year.

2.5 Notes on other entities

Jenoptik holds shares in 6 (prior year 8) other entities with a maximum 50 percent investment quota respectively. These investments are of minor importance individually and as a whole 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 205.

3 Accounting Policies and Valuation Methods

3.1 Goodwill

Goodwill as stated in IFRS 3 corresponds to the positive difference between the consideration for a business combination and the newly acquired, revalued assets and liabilities, including certain contingent liabilities, remaining after a purchase price has been allocated. 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. During an acquisition of a controlling interest, non-controlling interests are valued according to their proportion of the 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 is recognized immediately through profit or loss and not reversed in later reporting periods.

3.2 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 of 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.

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

Development costs are capitalized if a newly developed product or process can be clearly identified, is technically realizable and if there are 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.

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 of 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.

3.3 Property, plant, and equipment

Property, plant, and equipment are valued at acquisition and production costs, less scheduled, straight-line depreciation. The depreciation method reflects the anticipated pattern of consumption of the future economic benefits. Where necessary, impairment losses reduce the amortized acquisition and production costs. In principle, government grants 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 is essentially based on the following useful lives:

	Useful life
Building	20–80 years
Machinery and technical equipment	4–20 years
Other equipment, operating and office equipment	3–10 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.

3.4 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 cash-generating units are identified, impairment tests are performed on these assets.

The demarcation between cash-generating units is primarily carried out on the basis of the business units constituting the divisions.

As part of the impairment test, the recoverable amount of an asset or cash-generating unit 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 its value in use.

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 on the basis of discounted expected 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 recognized immediately through 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 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 loss reversal is immediately recorded through profit or loss.

3.5 Government grants

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

In general, IAS 20 states that grants are to be accounted for through profit or loss in the same period as the relevant expenses.

In the Jenoptik Group a grant for a non-current asset is deducted from the acquisition costs. Correspondingly, the amount to be written off is determined on the basis of the reduced acquisition costs.

3.6 Leases

When using leased items of property, plant, and equipment, the conditions for finance leases as defined in IAS 17 "Leases" are fulfilled if all material risks and opportunities incidental to ownership have been transferred to the respective consolidated entity of the Group. All other leases are classified as operating leases.

Finance leases. The Group, as a lessee of the finance lease, capitalizes the assets leased at the inception of the lease at the amount equal to their fair value, or if lower, the current value of the minimum lease payments. The straight-line depreciation method is to be used to write off the asset over the period of its economic useful life or the shorter term of the lease agreement if it is unlikely that an option to purchase the asset will

134 Consolidated Statement of Comprehensive Income
136 Consolidated Statement of Financial Position
137 Consolidated Statement of Cash Flows
138 Statement of Changes in Equity
140 Notes

be exercised. Liabilities from finance lease agreements are shown at the current value of the minimum lease payments.

If the Group is a lessor, the net value of the investment from the lease is capitalized as a receivable. Financial income is recognized through profit or loss in the respective reporting period, so that there is a constant periodic return on the net investment.

Operating leases. Lease payments from operating leases are recognized through profit or loss on a straight-line basis over the term of the corresponding lease.

Any incentives received or outstanding for entering into an operating lease agreement are also recognized on a straight-line basis over the term of the lease.

3.7 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 (see page 170). The fair values to be stated are determined using a discounted cash flow method or standard land values.

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 charged 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.

3.8 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 income from the date on which the Group becomes a contractual party in a financial instrument agreement.

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 either as "at amortized acquisition costs", "at fair value through other comprehensive income", or "at fair value through profit or loss" and valued accordingly.

In the past fiscal year, depending on their classification, existing financial instruments were recognized at amortized acquisition costs, or "available-for-sale financial assets" at fair value, in the categories "receivables and loans".

The amortized acquisition costs of a financial asset or a financial liability are defined as the amount at which the financial asset or financial liability was valued at initial recognition:

- minus any repayments
- minus any impairment losses or potential inability to be recovered, as well as
- plus/minus 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 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, on the basis of the exercising of the option, all investments in listed public companies are classified as "at fair value through other comprehensive income" and, in the subsequent periods, at the fair value derived from observable market prices. In the period under comparison, these investments are classified as "available for sale" and in subsequent periods are valued at fair value without deducting transaction costs.

Under IFRS 9, and on the basis of the exercising of the option, shares in unlisted subsidiaries and other investments are classified as at "fair value through other comprehensive income". In the absence of any identifiable market prices, the fair values of these financial instruments are determined on the basis of discounted cash flows. In the 2017 fiscal year, these shares were classed as "available-for-sale financial assets" but generally shown at the respective acquisition costs as these represented a reasonable approximation for the fair values. As far as there were any indications of lower fair values, these were recognized.

With the exception of impairments that are reported as profit or loss under IAS 39, all changes in the value of shares in companies are recognized outside profit or loss in other comprehensive income.

Shares in entities which are subject to valuation at-equity

Shares in entities over which Jenoptik exerts key influence, are valued using 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 under profit or loss, whilst shares in other comprehensive income are recorded outside profit or loss.

Loans

Loans involve credits granted by the Jenoptik Group which are valued at the amortized acquisition costs in accordance with both IAS 39 and IFRS 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.

Other financial assets

Under IAS 39, the other financial assets shown in the 2017 fiscal year were classified under the category of "available-for-sale financial assets" and shown at fair value. Until sold, they were recognized under other comprehensive income outside profit or loss, taking deferred taxes into consideration. When securities are sold or if a significant or permanent impairment loss occurs, the cumulative profit or loss that had been accounted for directly in equity up to then was reclassified in the profit or loss of the current reporting period. The initial valuation was recorded at the settlement date at acquisition costs which reflect the fair value.

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, using an impairment loss account. Under IAS 39, individual impairments as well as portfolio-based impairments were also recognized in the 2017 fiscal year, using an impairment account.

When the loss of a trade receivable is finally realized, the receivable is booked out by using any impairment previously recognized.

Contract assets

Contract assets reported under IFRS 15 are recognized at nominal value, taking impairment losses under IFRS 9 into account. Jenoptik also applies the simplified approach to determine impairment losses on contract assets and determines the risk provisions for the anticipated bad debts over the total term.

Other financial assets

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

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

Current financial assets

Current cash deposits are classified as "at amortized acquisition costs" in accordance with IFRS 9 and valued accordingly. Under IAS 39, the classification was carried out as "loans and receivables", with the valuation also being applied at the amortized acquisition costs.

In the 2017 fiscal year, some of the current financial assets under IAS 39 were classified as "financial investment to be held to maturity" and valued at the amortized acquisition costs.

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.

Financial liabilities and equity instruments

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.

Liabilities from finance lease agreements are shown at the cash value of the outstanding minimum lease payments.

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 due to be paid on repayments or redemption, are accounted for on an accrual basis by applying the effective interest method, and increase the carrying amount of the instrument insofar as they have not been settled at the date of its inception.

b) Derivative financial instruments

Within the Jenoptik Group, derivative financial instruments are used 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 values are determined on the basis of the market conditions – interest rates, foreign currency exchange rates – at the balance sheet date and using the valuation methods shown below.

Derivative financial instruments are not used for speculation purposes. The use of derivative financial instruments is governed by a group guideline which is authorized by the Executive Board and represents a fixed written guideline on the use of derivative financial instruments. In order to hedge risks from fluctuations in interest and foreign currency exchange rates, the Group uses cash flow hedges.

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.

3.9 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.

Acquisition costs also include any other costs incurred to restore the inventories to their current condition. Any reductions in purchase prices such as rebates, bonuses or trade discounts are taken into account.

Production costs include the full costs relating to production that have been determined on the basis of 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 taken into account insofar as they can be allocated to production. If fair values 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 they occur.

3.10 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.

3.11 Construction contracts

In accordance with IAS 11 "Construction contracts", revenue and profits from construction contracts in the 2017 fiscal year were recognized according to the "Percentage of completion method". The percentage of completion is derived from the ratio between the actual contract costs incurred up to the end of the fiscal year and the currently estimated total contract costs ("cost-to-cost method"). Losses arising from construction contracts are recognized immediately and in full in the fiscal year in which they were identifiable.

Construction contracts valued according to the "Percentage of completion method" were recognized as receivables or payables arising from construction contracts, depending on the amount of the advanced payments or progress billings received. They were valued at production costs plus any proportion of income received according to the percentage of completion achieved. Insofar as the cumulative services rendered (contract costs and contract outcome) exceed the progress billings and advances received in individual cases, construction contracts are shown under receivables from construction contracts. If, after deducting progress billings and advances received, there was a negative balance, this was shown as a payable under liabilities from construction contracts. Any anticipated contract losses were taken into account as write-downs or provisions. They were determined, taking into consideration all identifiable risks.

Customer orders which were previously reported under IAS 11 as construction contracts, have been reported in accordance with IFRS 15 since the 2018 fiscal year. Any differences between advance payments and progress billings received and realized revenue are shown as contract assets or contract liabilities.

3.12 Contract assets and contract liabilities

A contract asset is the not 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 advances received and customer billings. Receivables from customers arising from invoices issued, are shown under trade receivables.

If the requested advances 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 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 contract liabilities also include obligations arising from agreed contractual penalties that are accounted as a reduction in revenue.

3.13 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 in order to take into account future tax effects resulting from timing differences between the balance sheet 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 on the basis of 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.

3.14 Provisions for pensions and similar obligations

Pensions and similar obligations comprise both the pension obligations of the Jenoptik Group as well as defined benefit and 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. Actuarial expert opinions are annually obtained for this procedure.

In Germany, the mortality rates are determined in accordance with the Klaus Heubeck guideline mortality tables 2018 G. In Switzerland, the BVG/LPP 2015 mortality tables apply. 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.

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

3.15 Tax provisions

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

Tax provisions for corporate income tax and trade tax or similar income tax expenses are determined on the basis of the taxable income of the consolidated entities, less any prepayments made. Any other taxes to be assessed are considered in the same manner.

3.16 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 obligations to third parties that are more likely than not at the reporting date.

Provisions are recognized at their settlement value discounted to the reporting date, providing the interest effect is significant. The settlement value also includes the anticipated price or cost increases. Discounting is based on interest rates before taxes that reflect current market expectations with regard to the interest effect and which are dependent upon the corresponding term of the obligation. The interest portion of the compounding of the provision is recorded in the financial result.

Provisions are valued on the basis of empirical values, taking the circumstances at the balance sheet date into consideration. 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 of recourse are only taken into account if these claims are virtually certain.

3.17 Share-based payments

The members of the Executive Board and some senior management personnel of JENOPTIK AG receive share-based remuneration in the form of long term incentives (LTI) as well as performance shares in accordance with the new Executive Board remuneration system. These payments are accounted for as share-based payment with settlement in cash in accordance with IFRS 2 "Share-based payment". At the balance sheet date and depending upon the contractual provisions, a long-term liability 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.

3.18 Advances received

Advance payments received from customers were recognized as liabilities in the fiscal year 2017, insofar as such payments do not relate to construction contracts.

From the 2018 fiscal year, advance payments received will be reported in accordance with IFRS 15 as part of the contract assets or contract liabilities.

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 in the section "Contingent liabilities and contingent payables" from page 198.

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 several performance obligations, the revenue is allocated based on stand-alone 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 takes into account, 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 within a specific order process represent assets without any alternative benefit to the Group. Under the condition of a claim for compensation of the work performed so far, revenue is realized over time, with the percentage of completion determined according to the input-oriented cost-to-cost method. This applies both to the production of individual assets and development projects, followed by volume production (customer-specific volume production).

Proceeds from the provision of services are recognized over time according to the percentage of completion as at the balance sheet date, with the percentage of completion generally determined according to the input-oriented cost-to-cost method.

The Group usually offers 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 performance obligation. In this case, revenue proportion thereof 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 a number of 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.

As a result of the fact that advance payments 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.

In the 2017 fiscal year, revenues were recorded in accordance with both IAS 11 for construction contracts as well as IAS 18. This gave rise to the following accounting policies and valuation methods used in the prior year.

Revenue generated from the sale of goods is recognized through profit or loss as soon as all material risks and rewards associated with the ownership of the goods have been transferred to the buyer, a price has been agreed or could be determined and payment of same could be assumed. The payments charged to the customers for the goods and services – less sales deductions and trade discounts – are shown under revenue.

Revenue from services was recorded in accordance with the percentage of completion of the order at the balance sheet date. The percentage of completion of the order is determined on the basis of the services rendered. Income was only recognized if there was sufficient probability that the entity would receive the economic benefit associated with the contract. Otherwise, income was only recognized to the extent that the expenses incurred were refundable.

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

If a contract contained a number of delimitable components (multi-component contracts), these were implemented separately in accordance with the above principles.

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 or amortization of intangible assets and property, plant, and equipment is shown in accordance with the principle of 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, with the exception of 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, since the 2018 fiscal year, selling expenses have also included 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, as the period of depreciation for the asset that the Group would otherwise have recognized is not more than one year.

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

3.24 Other operating income and expenses

Income from the reversal of provisions is recorded in the functional costs, insofar as the provision was also generated 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 or losses arising from hedging instruments for these items. In addition to other taxes, expenses for group projects are also allocated to other operating expenses.

3.25 Financial income and financial expenses

The financial income and financial expenses of the Group mainly comprise interest income and interest expenses. Furthermore, these items include currency exchange gains and losses arising from financial assets and liabilities as well as net gains or losses arising from hedging instruments for these financial assets and liabilities. In addition, the financial income and financial expenses include net gains and losses arising from the measurement of the fair value of contingent considerations that are classified as financial liabilities.

4 Disclosures on the Statement of Income

4.1 Revenue

In contrast to 2017 revenue increased overall by 86,642 thousand euros or 11.6 percent and totaled 834,571 thousand euros.

Detailed disclosures on revenue according to segment and region are shown in the Segment Report from page X ff.

A division of revenue, recognized over time and at a point of time, is shown in the table below:

in thousand euros	Optics & Life Science	Mobility	Defense & Civil Systems	Other	Group
External revenue	**285,169**	**327,644**	**218,056**	**3,701**	**834,571**
thereof recognized over time	71,691	94,927	62,257	3,542	232,417
thereof recognized at a point in time	213,478	232,717	155,799	158	602,153

The revenue recognized over time included revenue from customer-specific volume production in the sum of 150,392 thousand euros. In addition, in particular revenue for services rendered was recognized over time.

Revenue in the Traffic Solutions business of the Mobility segment also included other revenue from embedded operating leasing contracts in the sum of 6,675 thousand euros.

Revenue for performance obligations that have already been met in prior years were realized in the past fiscal year in the sum of 1,107 thousand euros, in particular due to variable considerations, the amount of which was previously the subject of some uncertainty.

The item ‘revenue’ also included revenues arising from the so-called “bill and hold” agreements in the sum of 515 thousand euros (prior year: 6,759 thousand euros).

In the prior year, the division of revenue was as follows:

in thousand euros	2017
Sale of goods	645,910
Services rendered	100,006
Rental income	2,013
Total	**747,929**

Revenue in the prior year included revenue for construction contracts accounted for according to their percentage of completion at the reporting date in accordance with IAS 11, in the sum of 28,267 thousand euros. For these construction contracts, progress billings sent to customers up to the end of fiscal year 2017 amounted to 13,508 thousand euros.

Total revenue of 46,200 thousand euros was recognized for the production orders which had not yet been completed as at the balance sheet date of December 31, 2017.

In the fiscal year just past, these construction contracts were accounted for in accordance with the provisions of IFRS 15. Details on the effects of applying IFRS 15 to the consolidated statement of income are contained in the section “Accounting principles” from page 140.

4.2 Cost of sales

in thousand euros	2018	2017
Cost of materials	335,816	289,651
Personnel expenses	159,260	141,063
Depreciation and amortization	22,365	21,591
Other cost of sales	24,033	31,738
Total	**541,475**	**484,042**

In contrast to 2017 cost of sales increased overall by 57,432 thousand euros or 11.9 percent and totaled 541,475 thousand

euros. Cost of sales include the costs incurred to generate revenue. This item also records the costs for setting aside provisions for sales-related transactions, in particular for guarantee and warranty costs, as well as the costs for development services on behalf of customers.

Cost of sales of 47,634 thousand euros was recognized for the production orders which had not yet been completed as at the balance sheet date of December 31, 2017. The profit realized from these contracts totaled 8,299 thousand euros, a loss was posted in the sum of 9,733 thousand euros. As a result of the initial application of IFRS 15 as of January 1, 2018, these orders are no longer accounted for as construction contracts within the meaning of IAS 11.

4.3 Research and development expenses

In 2018, in contrast to the prior year, research and development expenses increased overall by 4,364 thousand euros to 47,443 thousand euros.

These cover all expenses attributable to research and development activities. These income statement items did not include expenses paid by customers in connection with research and development services in the sum of 20,191 thousand euros (prior year: 22,155 thousand euros). Such expenditures were allocated to cost of sales.

In the fiscal year just past, costs in the sum of 1,280 thousand euros (prior year 549 thousand euros) were capitalized in intangible assets for internal development projects.

More detailed information on the Group's research and development activities is provided in the Combined Management Report in the section "Research and development" from page 81.

4.4 Selling expenses

In contrast to 2017, selling expenses increased overall by 6,737 thousand euros or 8.4 percent to 87,050 thousand euros in 2018.

Selling expenses include personnel expenses and the cost of materials as well as sales-related depreciation/amortization. They also include the expenses for sales commissions as well as marketing and communication.

In addition, since the 2018 fiscal year, selling expenses have also included 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.

4.5 General administrative expenses

Compared to the prior year, general administrative expenses in 2018 increased slightly by 312 thousand euros to 56,129 thousand euros.

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

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	2018	2017
Cost of materials	356,089	309,343
Personnel expenses	278,347	258,275
Depreciation and amortization	30,569	28,684
Other expenses	67,091	66,947
Total	**732,096**	**663,250**

4.7 Other operating income

in thousand euros	2018	2017
Foreign currency exchange gains	9,744	8,178
Income from reversed bad debt allowances for receivables	3,461	1,416
Income from services, offsets and rentals	2,022	1,375
Income from non-cash contributions	1,686	1,593
Income from government grants	1,090	970
Income from damage claims/insurance benefits	557	414
Income from the sale of materials	230	351
Income from the sale of intangible assets and property, plant and equipment	119	222
Others	1,952	1,425
Total	**20,861**	**15,944**

Other operating income increased by 4,917 thousand euros and thus by 30.8 percent to 20,861 thousand euros in 2018.

Income from foreign currency exchange gains mainly includes 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 reversal of bad debt allowance for receivables has been recorded through profit or loss on the basis of payments received for overdue receivables.

Income from services, clearing and rental is not derived from the normal activities of the companies.

Income from government grants generally 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, amongst other things, income from compensation and insurance payments, income from the operation of staff canteens as well as income from asset disposal.

4.8 Other operating expenses

in thousand euros	2018	2017
Foreign currency exchange losses	8,823	11,836
Expenses from increase of bad debt allowances for receivables and bad debt losses	5,904	3,531
Expenses for group projects	2,877	530
Impairments of intangible assets and property, plant and equipment	2,136	248
Amortization of intangible assets from a first-time consolidation	2,031	1,362
Expenses for services and rentals	1,925	2,404
Acquisition costs	1,901	1,158
Losses from disposals of intangible assets and property, plant and equipment	387	296
Other taxes	358	359
Additions/reversals of provisions	−349	−763
Others	2,433	1,618
Total	**28,426**	**22,579**

Other operating expenses increased by 5,847 thousand euros or 25.9 percent compared with the prior year, to 28,426 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. From the net viewpoint, foreign currency gains and losses led to a net gain of 921 thousand euros in 2018 (prior year: net loss of 3,658 thousand euros).

The expenses for group projects relate to a project to analyze and optimize business processes and implement a new group-wide ERP system.

Impairment losses on intangible assets and property, plant and equipment include both the unscheduled amortization of an intangible asset from an earlier acquisition, as a well as an impairment loss on a building partly leased to a third party. Details on this can be found in the sections “Intangible assets” from page 166 and “Property, plant and equipment” from page 169.

The increase in amortization of intangible assets arising from initial consolidations relates to some of the intangible assets identified within the framework of the acquisitions of Prodomax and the OTTO Group.

The acquisition costs include transaction and consultancy costs for corporate acquisitions. In 2018, these were attributable to the acquisitions of Prodomax and the OTTO Group.

The addition to and reversal of provisions include additions in the sum of 237 thousand euros (prior year: 683 thousand euros) as well as reversals in the sum of 586 thousand euros (prior year: 1,446 thousand euros) which were not directly apportioned to the functional costs. More information on these items can be found in the section “Other provisions” from page 183.

In fiscal year 2018, other operating expenses included, amongst other things, one-off costs for the Group’s strategic realignment project as well as for the launch of the VINCORION brand for the mechatronics business.

4.9 Investment income

in thousand euros	2018	2017
Impairments and impairment reversals of financial investments	−9	74
Earnings from investments	161	6,393
Total	**152**	**6,468**

The investment income reduced by 6,316 thousand euros compared to 2017, to 152 thousand euros.

The income from investments in the prior year included in particular income from the sale of a minority holding and the sale of listed securities in the total sum of 6,344 thousand euros. In 2018, income from dividend payments from investment companies as well as income from the subsequent adjustment of the consideration for the minority shareholding that had been transferred in the previous year, were recognized under this item.

4.10 Financial income and financial expenses

in thousand euros	2018	2017
Income from measuring financial instruments in foreign currency	3,105	776
Income from financial asset securities and loans	63	19
Income from fair value measurment of financial instruments	33	280
Other interest and similar income	237	682
Total financial income	**3,438**	**1,756**
Expenses for measuring financial instruments in foreign currency	2,135	1,797
Interest expenses for debenture loans	1,769	1,867
Interest expenses for syndicated loan	561	693
Interest expenses for foreign finance loans	551	485
Impairment losses from current financial investments cash and cash equivalents	411	0
Net interest expenses for pension provisions	540	502
Other interest and similar expenses	1,093	843
Total financial expenses	**7,060**	**6,186**
Total	**−3,622**	**−4,430**

The net balance of financial income and financial expenses improved by 808 thousand euros or 18.2 percent to minus 3,622 thousand euros (prior year: minus 4,430 thousand euros).

Income from the foreign currency valuation of financial transactions in the sum of 3,105 thousand euros (prior year: 776 thousand euros) and countervailing expenses in the sum of 2,135 thousand euros (prior year: 1,797 thousand euros) led to a net profit of 970 thousand euros in fiscal year 2018 (prior year: net loss of 1,021 thousand euros). This result is derived from the foreign currency exchange gains and losses arising from the valuation of financial investments which were issued in foreign currencies, less the valuation of the respective derivatives.

The income from the valuation of financial instruments at fair value includes the valuation of the put option agreed as part of the acquisition of the Vysionics Group.

The item other interest and similar income primarily comprises interest income from bank deposits.

Interest expenses for foreign finance loans were incurred on local financing of entities in the USA and China.

The item other interest and similar expenses included guaranty and bank charges, interest arising from finance leasing contracts, as well as interest expenses from accrued interest on non-current liabilities and other provisions.

4.11 Income taxes

Current income taxes (paid or owing) in the respective countries as well as deferred tax assets and deferred tax liabilities are shown as income taxes. The calculation of the current income taxes of the Jenoptik Group was performed by using 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 29.74 percent (prior year: 29.74 percent) In addition to the corporate income tax at 15.0 percent (prior year: 15.0 percent) and the solidarity surcharge of 5.5 percent of the corporate income tax charge (prior year 5.5 percent), an effective trade tax rate of 13.92 percent (prior year: 13.92 percent) was taken into account. 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 income or tax expenses 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.

133 – 206 Consolidated Financial Statements

Tax expenses were classified according to origin as follows:

in thousand euros	2018	2017
Current income taxes		
Domestic	11,150	7,952
Foreign	−196	6,382
Total	**10,954**	**14,334**
Deferred taxes		
Domestic	−6,162	−5,199
Foreign	−791	−1,706
Total	**−6,953**	**−6,905**
Total income tax	**4,002**	**7,429**

The current income taxes include an income in the sum of 827 thousand euros (prior year: expense of 537 thousand euros) for current taxes from earlier business periods. Deferred taxes included expenses relating to a different period in the sum of 889 thousand euros (prior year: income of 281 thousand euros) and expenses resulting from the development of timing differences of 2,262 thousand euros (prior year expenses of 390 thousand euros). In addition, deferred tax income includes in particular income from the capitalization of deferred taxes on tax losses carried forward.

A deferred tax claim of 67,951 thousand euros (prior year: 59,448 thousand euros) was recognized for unused tax losses carried forward. Of which 31,561 thousand euros (prior year: 27,167 thousand euros) was attributable to tax losses carried forward for trade tax.

For the remaining losses carried forward, no deferred tax assets were recognized for corporate tax purposes in the sum of 26,247 thousand euros (prior year: 105,015 thousand euros) whilst no deferred tax assets were recognized for trade tax purposes in the sum of 181,747 thousand euros (prior year: 267,927 thousand euros).

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

in thousand euros	31/12/2018	31/12/2017
Corporate income tax	252,178	303,570
Trade tax	408,463	462,709

The reduction in tax losses carried forward mainly resulted from their being used in the reporting period. Taking into consideration all currently known positive and negative factors influencing the future tax results of the Jenoptik Group, a utilization of the corporate tax loss carried forward of 225,931 thousand euros (prior year: 198,555 thousand euros) and the use of a trade tax loss carried forward of 226,716 thousand euros (prior year: 194,782 thousand euros) was probable.

The tax losses carried forward were subject to a time limit on losses carried forward:

in thousand euros	31/12/2018	31/12/2017
1 year or less	259	676
2 years to 5 years	5,838	5,790
6 years to 9 years	2,716	1,496
More than 9 years	445	477
Total losses carried forward subject to a time limit	**9,258**	**8,439**

In addition, no deferred tax assets were shown for allowable timing differences in the sum of 8,271 thousand euros (prior year: 6,210 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 balance sheet items and to tax losses carried forward:

	Deferred tax assets		Deferred tax liabilities	
in thousand euros	31/12/2018	31/12/2017	31/12/2018	31/12/2017
Intangible assets	2,284	1,678	4,922	1,562
Property, plant and equipment	1,692	2,011	3,088	1,684
Financial assets	986	1,055	457	157
Inventories	7,396	7,273	673	58
Receivables and other assets	1,359	1,387	5,398	3,115
Provisions	12,584	12,129	661	1,274
Liabilities	4,254	1,881	218	249
Tax losses carried forward and tax refunds	68,680	59,448	0	0
Gross value	**99,235**	**86,862**	**15,417**	**8,099**
(thereof non-current)	(73,156)	(66,303)	(10,753)	(5,624)
Offset	−12,944	−7,962	−12,944	−7,962
Value presented in the statement of financial position	**86,291**	**78,900**	**2,473**	**137**

The net inventory of the asset surplus in deferred taxes increased by 5,055 thousand euros. Taking into consideration the deferred taxes (minus 2,229 thousand euros) recognized outside of profit or loss, initial consolidations (4,217 thousand euros), as well as the foreign currency exchange conversions (minus 90 thousand euros), offset in the reporting year, this gave rise to deferred tax income of 6,953 thousand euros shown in the income statement.

Temporary differences in the sum of 79,965 thousand euros (prior year: 66,463 thousand euros) related to shares in subsidiaries. Deferred tax liabilities in the sum of 28 thousand euros (prior year: 0) were set aside on outside basis differences.

4.12 Earnings from non-controlling interests

Earnings from non-controlling interests in the group earnings totaled 138 thousand euros (prior year: 149 thousand euros) and related to the non-controlling interests in JENOPTIK Korea Corporation Ltd., JENOPTIK Japan Co. Ltd. as well as the Vysionics Group. The portion of group earnings of the non-controlling shareholders of the Vysionics Group were only taken into account up to the exercising of the put options of the non-controlling shareholders in respect of all shares still held by them during the course of the year.

More information on the entities with non-controlling interests is available in section 2.1 “The group of entities consolidated” from page 146.

in thousand euros	2018	2017
Earnings before tax	**91,440**	**80,082**
Corporate income tax rate for the Jenoptik Group in %	29.74	29.74
Expected tax expense	**27,194**	**23,816**
Following tax effects resulted in the difference between the actual and the expected tax expense:		
Non-deductible expenses, tax-free income and permanent deviations	691	578
Changes in unrecognized deferred taxes	−24,204	−20,590
Effects resulting from tax rate differences	415	1,080
Effects of tax rate changes	79	1,535
Taxes for prior years	−414	584
Other tax effects	241	426
Total adjustments	**−23,192**	**−16,387**
Actual tax expense	**4,002**	**7,429**

The table above 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 2018 the applicable group tax rate of 29.74 percent (prior year: 29.74%) was multiplied by the earnings before tax (EBT).

4.13 Earnings per share

Earnings per share corresponds to the earnings attributable to shareholders divided by the weighted average of outstanding shares.

	2018	2017
Earnings attributable to shareholders	87,575	72,504
Weighted average number of outstanding shares	57,238,115	57,238,115
Earnings per share in euros (diluted = undiluted)	**1.53**	**1.27**

Further information on earnings per share is available in section Jenoptik Share from page 32.

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	**14,501**	**68,158**	**1,424**	**111,279**	**2,247**	**197,609**
Balance as of 1/1/2018	**(14,194)**	**(67,408)**	**(1,688)**	**(104,197)**	**(1,800)**	**(189,288)**
Foreign currency exchange effects	5	−476	0	−703	0	−1,173
	(−17)	(−838)	(0)	(−2,018)	(−1)	(−2,874)
Changes in the group of entities consolidated	0	32,906	0	59,069	0	91,975
	(0)	(6,385)	(0)	(9,100)	(0)	(15,484)
Additions	864	2,705	23	0	957	4,549
	(485)	(2,270)	(25)	(0)	(1,392)	(4,171)
Disposals	272	2,429	241	0	207	3,149
	(161)	(8,127)	(19)	(0)	(169)	(8,476)
Transfers (+/-)	10	463	160	0	−681	−48
	(0)	(1,060)	(−270)	(0)	(−774)	(15)
Acquisition/production costs	**15,108**	**101,326**	**1,367**	**169,646**	**2,316**	**289,763**
Balance as of 31/12/2018	**(14,501)**	**(68,158)**	**(1,424)**	**(111,279)**	**(2,247)**	**(197,609)**
Amortization and impairments	**13,748**	**52,134**	**900**	**9,895**	**1**	**76,679**
Balance as of 1/1/2018	**(13,462)**	**(53,801)**	**(778)**	**(9,895)**	**(0)**	**(77,936)**
Foreign currency exchange effects	5	153	0	0	0	158
	(−17)	(−659)	(0)	(0)	(0)	(−675)
Changes in the group of entities consolidated	0	210	0	0	0	210
	(0)	(331)	(0)	(0)	(0)	(331)
Additions	155	8,608	147	0	0	8,910
	(464)	(6,773)	(131)	(0)	(1)	(7,369)
Impairment losses	0	1,195	0	0	0	1,195
	(0)	(0)	(0)	(0)	(0)	(0)
Disposals	272	2,429	240	0	0	2,942
	(161)	(8,127)	(9)	(0)	(0)	(8,297)
Transfers (+/-)	0	2	0	0	−2	0
	(0)	(16)	(0)	(0)	(0)	(16)
Amortization and impairments	**13,635**	**59,872**	**807**	**9,895**	**0**	**84,209**
Balance as of 31/12/2018	**(13,748)**	**(52,134)**	**(900)**	**(9,895)**	**(1)**	**(76,679)**
Net carrying amount as of 31/12/2018	**1,473**	**41,454**	**560**	**159,750**	**2,316**	**205,553**
	(753)	**(16,024)**	**(524)**	**(101,384)**	**(2,246)**	**(120,931)**

The figures in brackets relate to the prior year.

The changes in the group of entities consolidated included the additions from the acquisitions of Prodomax and the OTTO Group, as well as the effects from the final valuation of the intangible assets of Five Lakes Automation LLC identified as part of the purchase price allocation.

As the result of an impairment test, an impairment loss on customer relationships capitalized in the context of an acquisition was recognized in the sum of 1,195 thousand euros.

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 which are written off in full at the end of their useful life.

As in the prior year, intangible assets were not subject to any disposal restrictions. The order commitments for intangible assets totaled 329 thousand euros (prior year: 545 thousand euros).

Additions to other intangible assets included capitalized expenses for internally generated assets in development in the sum of 632 thousand euros (prior year: 260 thousand euros), of which 417 thousand euros were attributable to development costs arising from internal development projects and 216 thousand euros to internally generated patents. Once the internal development projects have been completed or the patents granted, these were transferred to the corresponding groups of intangible assets.

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

As of December 31, 2018 goodwill amounted to 159,750 thousand euros (prior year: 101,384 thousand euros). The additions to goodwill in the sum of 59,069 thousand euros resulted from the acquisitions of Prodomax and the OTTO Group as well as the finalization of the initial consolidation Five Lakes Automation LLC. The further change in the carrying amounts in the sum of minus 703 thousand euros was attributable exclusively to currency effects (prior year: minus 2,017 thousand euros).

As in the prior year, no impairments were required for goodwill in the 2018 fiscal year.

The following table summarizes the goodwill for each cash-generating unit according to segment:

in thousand euros	31/12/2018	31/12/2017
Optics & Life Science	42,759	42,661
Optical Systems	1,529	1,460
Healthcare & Industry	41,230	41,201
Mobility	109,071	50,802
Automotive	68,704	10,032
Traffic Solutions	40,367	40,770
Defense & Civil Systems	7,921	7,921
Total	**159,750**	**101,384**

The following table shows the allocation of goodwill to the segments by percentage:

in percent	31/12/2018	31/12/2017
Optics & Life Science	27	42
Mobility	68	50
Defense & Civil Systems	5	8
Total	**100**	**100**

The impairment test for goodwill was performed at the level of the cash-generating units benefiting from the synergies of the respective business combination 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 was the five-year corporate plan approved by the management and submitted to the Supervisory Board. 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.

In fiscal year 2018, Healthcare & Industry, as part of the Optics & Life Science segment, repeated the positive performance it achieved in the prior year. Sales growth was marked by a significant increase in profitability. The focus on the strategic market segments Bio-Imaging, Laser-based Therapy and Mobility,

Industrial Automation & Security will secure the profitable business and contribute to sustainable growth.

The Automotive division, as part of the Mobility segment, posted a significant increase in revenue and profitability in the past fiscal year. Future growth will be driven by an expansion of its automotive customer business, as well as the increased offering of integrated production solutions and the development of other key industries on the international level. The corporate plan for the Automotive division takes only moderate growth into account. Additional synergy effects are expected as a result of the new acquisitions.

In fiscal year 2018, Traffic Solutions, as part of the Mobility segment, posted an increase in revenue and profitability. The focus of development over the coming years will be on the increasing level of internationalization, especially in the regions of the Americas, the Middle East/North Africa, and other European countries. The on-going continuation of structural and process optimizations as well as the increase in the creation of local and international value added, lead us to anticipate a sustained increase in revenue and profitability over the medium term.

Based on the expansion of the international business, sales are anticipated to continue growing across all segments. This is coupled with the assumption that part of the added value is relocated to the target regions in order to generate sustainable growth in profitability.

Differentiated ranges are used to determine the future development of the working capital. At the same time, the result of the respective planning year for determining the free cash flow is adjusted for non-cash expenses and income such as depreciation/ amortization.

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 1.1 percentage points (prior year 0.9 and 1.1 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 peer groups, and 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 of between 5.26 and 8.26 percent (prior year: 6.10 percent and 8.15 percent). This corresponded to the weighted average cost of capital before tax of between 6.47 percent and 11.67 percent (prior year: 7.85 percent and 10.68 percent).

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

	Growth component in perpetual annuity	Weighted average cost of capital after taxes	Weighted average cost of capital before taxes
Optical Systems	1.10	7.51	10.45
	(1.00)	(7.30)	(10.65)
Healthcare & Industry	1.10	7.35	9.71
	(1.10)	(8.15)	(10.68)
Automotive	0.90	8.26	11.67
	(0.90)	(7.20)	(10.16)
Traffic Solutions	0.90	5.26	6.47
	(0.90)	(6.10)	(7.85)
Defense & Civil Systems	0.90	6.20	8.63
	(0.90)	(6.10)	(8.80)

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, 2018.

An increase in the weighted cost of capital rates of more than 0.4 percentage points, or a reduction in the cash flow of more than 8.0 percent would have caused the recoverable amount to fall below the carrying amount of the cash-generating unit Automotive.

Sensitivity analyses for the other cash-generating units would not result in the recoverable amount being less than the carrying amount within the bandwidths considered possible by the management.

5.2 Property, plant and equipment

in thousand euros	Land, buildings	Technical equipment and machinery	Other equipment, operating and office equipment	Assets under construction	Total
Acquisition/production costs	**161,392**	**177,035**	**103,506**	**9,721**	**451,653**
Balance as of 1/1/2018	**(154,950)**	**(172,641)**	**(98,171)**	**(12,271)**	**(438,032)**
Foreign currency exchange effects	754	1,513	125	161	2,554
	(–2,434)	(–3,777)	(–825)	(–1,098)	(–8,133)
Changes in the group of entities consolidated	4,337	499	863	0	5,700
	(13)	(617)	(333)	(0)	(963)
Additions	5,917	10,304	8,273	13,373	37,867
	(8,128)	(4,484)	(8,248)	(12,871)	(33,730)
Disposals	62	3,978	4,923	223	9,185
	(4,648)	(2,794)	(4,964)	(345)	(12,751)
Transfers (+/-)	–1,263	9,257	–353	–7,594	47
	(5,382)	(5,864)	(2,542)	(–13,977)	(–189)
Acquisition/production costs	**171,075**	**194,631**	**107,491**	**15,438**	**488,635**
Balance as of 31/12/2018	**(161,392)**	**(177,035)**	**(103,506)**	**(9,721)**	**(451,653)**
Depreciation and impairments	**69,287**	**137,130**	**80,471**	**35**	**286,923**
Balance as of 1/1/2018	**(70,554)**	**(132,911)**	**(76,625)**	**(61)**	**(280,151)**
Foreign currency exchange effects	67	959	73	0	1,099
	(–900)	(–2,389)	(–609)	(0)	(–3,897)
Changes in the group of entities consolidated	225	107	269	0	602
	(10)	(468)	(237)	(0)	(714)
Additions	3,935	10,577	7,050	0	21,563
	(3,980)	(9,808)	(7,428)	(0)	(21,215)
Impairment losses	941	0	0	0	941
	(0)	(149)	(99)	(0)	(248)
Impairment reversal	0	–33	0	–35	–67
	(0)	(0)	(0)	(–26)	(–26)
Disposals	37	3,528	4,790	0	8,355
	(4,330)	(2,272)	(4,841)	(0)	(11,443)
Transfers (+/-)	–2,582	2,851	–270	0	–1
	(–26)	(–1,545)	(1,532)	(0)	(–39)
Depreciation and impairments	**71,836**	**148,064**	**82,805**	**0**	**302,705**
Balance as of 31/12/2018	**(69,287)**	**(137,130)**	**(80,471)**	**(35)**	**(286,923)**
Net carrying amount	**99,239**	**46,567**	**24,686**	**15,438**	**185,930**
as of 31/12/2018	**(92,105)**	**(39,905)**	**(23,034)**	**(9,686)**	**(164,730)**

The figures in brackets relate to the prior year.

Land and buildings of the Group in the amount of 99,239 thousand euros (prior year: 92,105 thousand euros) covered in particular the production and administrative buildings in Jena, Altenstadt, Huntsville (USA), Shanghai (China) and Rochester Hills (USA) with the Technology Campus for metrology and laser machines completed in 2017. During this year, a plot of land was acquired for 1,086 thousand euros by JENOPTIK Industrial Metrology Germany GmbH to be used for the construction of a new administrative building with adjacent production hall. The investments made for this purpose in 2018 amounted to 1,937 thousand euros and will be shown under assets under construction until the planned completion of the building complex in spring 2020. In addition, as part of the acquisition of the OTTO Group, the company purchased a building and land in Jena worth 1,039 thousand euros.

In addition, in the fiscal year just past, JENOPTIK Industrial Metrology France SA invested in a new company building in Bayeux (France). Production areas, office space and a modern metrology laboratory were built on an industrial site there. The land and building were capitalized at 2,233 thousand euros.

With the acquisition of 94 percent of the partnership interest in ASAM, the production hall and administrative building, already in use by JENOPTIK Polymer Systems GmbH in Triptis, including the land valued at 3,452 thousand euros was transferred to the Group's ownership.

Furthermore, the purchase of the 100 percent of the shares in the Canadian entity Prodomax led to an addition to buildings in the sum of 885 thousand euros.

In addition, production capacities were expanded in almost all business areas in the 2018 fiscal year, whilst the process of further automation was driven forward through the replacement of old and installation of new systems.

More detailed explanations on the investments made are contained in the Combined Management Report, under the section "Financial position" from page 96 on.

Order commitments for property, plant, and equipment in the sum of 10,146 thousand euros have increased significantly compared with the prior year (prior year: 7,965 thousand euros) and primarily resulted from replacement and new investment in technical equipment and machinery.

There were no investment grants recorded in the 2018 fiscal year. In the prior year, investment grants in the sum of 35 thousand euros were deducted from the acquisition costs for property, plant, and equipment.

As in fiscal year 2017, no property, plant and equipment was pledged as of the balance sheet date. Loans in the sum of 74 thousand euros were secured through registered charges against real property (prior year: 107 thousand euros). There were no further disposal restrictions for property, plant, and equipment.

5.3 Investment property

in thousand euros	Investment Property
Acquisition or production costs Balance at 1/1/2018	**10,397** **(10,397)**
Additions	100 0
Disposals	2 (0)
Acquisition or production costs Balance at 31/12/2018	**10,495** **(10,397)**
Depreciation Balance at 1/1/2018	**6,047** **(5,953)**
Additions	97 (93)
Disposals	2 (0)
Depreciation Balance at 31/12/2018	**6,141** **(6,047)**
Net carrying amount at 31/12/2018	**4,354** **(4,350)**

The figures in brackets relate to the prior year.

The investment property as of December 31, 2018 primarily encompassed property in the Jena-Göschwitz Industrial Park.

The fair values totaled 4,476 thousand euros (prior year: 5,091 thousand euros). These were determined internally within the company on the basis of 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 2018, rental income from investment property held at the end of the fiscal year amounted to 518 thousand euros (prior year: 516 thousand euros).

In fiscal year 2018, the direct operating expenses for property and movables accounted for at the end of the year for rented space, totaled 194 thousand euros (prior year: 547 thousand euros) and for non-rented space 55 thousand euros (prior year: 33 thousand euros).

5.4 Leasing

Finance leases

The Group as lessee. In fiscal year 2018, all technical equipment and machinery was lease financed. These were accounted for at a carrying amount of 3,658 thousand euros. The original acquisition and production costs totaled 4,101 thousand euros.

In addition, there are leases for other equipment, operating and office equipment. The carrying amount totaled 558 thousand euros (prior year: 416 thousand euros). The original acquisition and production costs for these assets totaled 668 thousand euros (prior year: 505 thousand euros). This essentially included technical testing equipment as well as a storage system in the IT environment.

The finance lease contracts in force as of the balance sheet date were based on a weighted average interest rate of 1.7 percent (prior year: 2.9 percent).

Of the lease payments in the sum of 749 thousand euros (prior year: 87 thousand euros), 36 thousand euros (prior year: 7 thousand euros) were recognized through profit or loss in the fiscal year 2018. This corresponds to the interest portion included in the lease payment.

The lease payments due in the future are shown in the following table:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Minimum lease payments	868	3,230	11	4,109
	(193)	(705)	(0)	(898)
Interest portions included in payments	39	63	0	102
	(12)	(15)	(0)	(27)
Present value	829	3,167	11	4,007
	(180)	(690)	(0)	(871)

The figures in brackets relate to the prior year.

The Group as lessor. One group entity in the Mobility segment had concluded contracts for leasing traffic safety equipment to a client which were qualified as finance leases. The average total lease period for these contracts was 30 months.

Of the agreed minimum lease payments received in the fiscal year 2018 in the sum of 298 thousand euros (prior year: 468 thousand euros) none (prior year: 5 thousand euros) were recognized through profit or loss as no interest was due on the current portion due to the expiry of the contract in the current fiscal year.

As of December 31, 2018, there were no further outstanding minimum lease payments:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Minimum lease payments	0	0	0	0
	(340)	(0)	(0)	(340)
Present value	0	0	0	0
	(340)	(0)	(0)	(340)

The figures in brackets relate to the prior year.

All financial income arising from this lease business was recorded through profit or loss.

Operating leases

The Group as lessee. Operating leases mainly included lease agreements for commercial space as well as for office and data processing equipment and motor vehicles.

The payments arising from leases were recognized through profit or loss in the sum of 11,052 thousand euros (prior year: 9,767 thousand euros). As in the prior year, there were no contingent lease payments included.

As of the balance sheet date, there were open obligations arising from operating leases without a termination date, with the following maturities:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Minimum lease payments	10,107	30,494	25,397	65,999
	(8,670)	(23,193)	(21,607)	(53,470)

The figures in brackets relate to the prior year.

The increase in the minimum lease payments in fiscal year 2018 was essentially attributable to the conclusion of a new long-term lease contract at JENOPTIK Holdings UK Ltd. following a relocation to a new company building.

The Group as lessor. Within the framework of operating leases the Group leases commercial property. Rental income from the

leasing of property, plant, and equipment and from investment property in the reporting period amounted to 1,905 thousand euros (prior year: 2,013 thousand euros).

At the balance sheet date the following minimum lease payments had been contractually agreed with the tenants:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Minimum lease payments	475 (857)	1,381 (1,068)	7 (7)	1,864 (1,933)

The figures in brackets relate to the prior year.

Lease agreements without a termination date were recorded in rental income only up until the date of the earliest possible termination. The probability of leasing the space further or of granting extensions on the lease agreements was not included in the calculation.

5.5 Financial investments

in thousand euros	31/12/2018	31/12/2017
Shares in associates	5,191	0
Shares in unconsolidated associates	411	610
Investment companies	1,158	2,202
Loans to unconsolidated associates and investment companies	10	730
Long-term loans	0	867
Total	**6,770**	**4,408**

Shares in associates

As of January 1, 2018 TELSTAR-HOMMEL CORPORATION, Ltd. of Pyeongtaek, Korea, was also included in the consolidated financial statements as an associated company using the at-equity method. The company is a long-standing partner for Jenoptik in the Korean market and sources components, amongst other things, from the Automotive division.

The carrying amount of the investment was reclassified as shares of an associated company and the difference between the proportional net assets to which Jenoptik is entitled and the carrying amount at the date of the initial at-equity consolidation was offset in the sum of 3,614 thousand euros against the retained earnings outside profit or loss.

The following table contains summarized financial information of the company:

in thousand euros	2018
Disclosures on Income Statement	
Revenue	40,179
Profit/loss from continuing operations	1,611
Other comprehensive income	55
Total comprehensive income	**1,666**
Amount of the shares in %	33.3%
Group share of total comprehensive income	**555**
Disclosures on Statement of Financial Position and reconciliation to the at-equity carrying amount	
Non-current assets	13,460
Current assets	23,187
Non-current liabilities	16,790
Current liabilities	4,281
Equity	**15,575**
Amount of the shares in %	33.3%
Share in equity = at equity carrying amount	**5,191**

The figures in brackets relate to the prior year.

The share of the company's profit due to Jenoptik is shown under other operating income.

Other financial investments

The reduction in shares in and loans to unconsolidated associates can be attributed to the initial consolidation of RADARLUX Radar Systems GmbH. As a result of the acquisition of shares in ASAM and its inclusion in the consolidated financial statements, the tenant loan accounted for as a long-term loan in the prior year was eliminated as part of the debt consolidation process.

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

in thousand euros	2018	2017
Impairments at 1/1	**12,668**	**15,070**
Change in the group of consolidated entities	−2,213	0
Additions	656	763
Utilization	586	2,978
Reversal/derecognition	1	187
Impairments at 31/12	**10,523**	**12,668**

The reduction as a result of the change in the group of consolidated entities resulted from the loan granted to ASAM.

5.6 Other non-current financial assets

Other non-current financial assets include the following:

in thousand euros	31/12/2018	31/12/2017
Derivatives	1,828	1,957
Other non-current financial assets	363	363
Total	**2,191**	**2,319**

Other non-current financial assets were subject to disposal restrictions in the sum of 82 thousand euros (prior year: 86 thousand euros).

The aggregated item derivative financial instruments is explained in more detail in section 8.2 from page 191.

For details on receivables arising from lease contracts we refer to section 5.4 from page 171.

5.7 Other non-current non-financial assets

Other non-current, non-financial assets in the sum of 723 thousand euros (prior year: 586 thousand euros) essentially comprised the deferred charges for the syndicated loan in the amount of 343 thousand euros (prior year: 360 thousand euros).

5.8 Deferred taxes

The development of deferred taxes shown as an item in the statement of financial position is shown in section 4.11 from page 163.

5.9 Inventories

in thousand euros	31/12/2018	31/12/2017
Raw materials, consumables and supplies	71,697	69,675
Unfinished goods and work in progress	85,691	80,706
Finished goods and merchandise	18,214	18,244
Total	**175,602**	**168,625**

As of the end of the fiscal year 2018, accumulated impairment losses in the sum of 44,273 thousand euros (prior year 44,078 thousand euros) were taken into account in the carrying amount. The net realizable value of these inventories was 32,479 thousand euros (prior year: 25,492 thousand euros).

In fiscal year 2018, impairment losses were recognized in the sum of 3,016 thousand euros (prior year: 1,580 thousand euros). Impairment losses were reversed in the sum of 3,136 thousand euros (prior year: 2,662 thousand euros) as the reason for the impairment loss applied in prior years no longer existed.

The consumption of inventories affected expenses in the fiscal year in the sum of 272,495 thousand euros (prior year: 233,579 thousand euros), the table below shows the distribution:

in thousand euros	31/12/2018	31/12/2017
Cost of Sales	270,796	230,911
Research and development expenses	1,122	2,055
Selling expenses	296	356
Administrative expenses	280	257
Total	**272,495**	**233,579**

At the reporting dates there were no restrictions on the disposal of inventories.

5.10 Current trade receivables

in thousand euros	31/12/2018	31/12/2017
Trade receivables from third parties	126,219	120,978
Receivables from due requested advance payments	4,527	0
Trade receivables from unconsolidated associates	263	94
Trade receivables from investment companies	190	86
Receivables from construction contracts	0	14,859
Total	**131,198**	**136,017**

The fair values of trade receivables correspond to their carrying amounts as of the reporting date. With the first application of IFRS 15, the receivables from construction contracts are reclassified into contract assets and the receivables from due requested advance payments reported as trade receivables.

Trade receivables are non-interest bearing and are generally due within 30 to 90 days.

The following table shows the composition of the trade receivables:

in thousand euros	31/12/2018	31/12/2017
Gross amount of trade receivables from third parties	132,977	128,406
Trade receivables from due requested advance payments	4,527	0
Gross amount of trade receivables from unconsolidated associates	1,643	1,475
Gross amount of trade receivables from investment companies	259	155
Gross amount of trade receivables from construction contracts	0	14,859
Gross amount of trade receivables (total)	**139,406**	**144,895**
Cumulative impairments	−8,208	−8,879
Carrying amount of trade receivables	**131,198**	**136,017**

Default risks were determined through customer credit ratings via a scorecard. In addition to internal company data, this includes credit assessment by external credit bureaus. Based on the rating of customers' credit, 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 receivables against customers are regularly monitored and measures are taken to mitigate overdue receivables.

The default risk is taken into account through corresponding impairments. The following table shows the changes in impairments to outstanding trade receivables:

in thousand euros	2018	2017
Impairments at 1/1	**8,879**	**7,084**
Change in the group of consolidated entities	809	0
Additions	3,640	3,308
Consumption	1,852	88
Reversal/derecognition	3,301	1,363
Foreign currency exchange effects	32	−62
Impairments at 31/12	**8,208**	**8,879**

The impairment requirement is analyzed at each closing date on the basis of an impairment matrix to determine anticipated loan losses. The impairment quotas are determined on the basis of the overdue period in days for different customer segments combined into groups with similar default patterns.

The amount of the impairment to trade receivables from third parties totaled 6,759 thousand euros (prior year: 7,428 thousand euros). The remaining impairment requirement relates mainly to receivables due from an unconsolidated entity in liquidation.

Overdue but unimpaired receivables were owed primarily by public sector contractors, companies in the automobile industry as well as their suppliers. As of 31/12/2018 there were no collaterals for unimpaired receivables in the form of bank guarantees (prior year: 660 thousand euros).

The table below shows the default risk position for trade receivables due from third parties as determined by an impairment matrix:

in thousand euros	Expected credit loss rate	Expected total gross carrying amount at default	Expected credit loss
Not due	0.35 %	87,352	305
	0.42 %	(88,966)	(371)
overdue < 30 days	0.35 %	23,011	81
	1.22 %	(16,497)	(202)
overdue 30 – 60 days	6.25 %	8,982	562
	3.52 %	(5,314)	(187)
overdue 61 – 120 days	13.57 %	4,106	557
	10.82 %	(4,682)	(507)
overdue 121 – 240 days	27.86 %	3,221	897
	22.51 %	(6,076)	(1,368)
overdue 241 – 360 days	40.75 %	1,419	578
	34.27 %	(1,861)	(638)
overdue > 360 days	77.30 %	4,887	3,778
	82.94 %	(5,010)	(4,156)
Total	5.08 %	132,977	6,759
	5.78 %	(128,406)	(7,428)

In the fiscal year 2017 the specific individual impairments to receivables of 1,944 thousand euros were higher than in the year just past (prior year: 3,732 thousand euros). These mainly concerned receivables with an overdue date of 360 days.

5.11 Contract assets

The balance sheet item was reported for the first time in the 2018 fiscal year based on the application of IFRS 15 and includes claims by the Group against customers for receipt of a consideration in exchange for goods or services that have already been transferred. These are grouped as follows:

in thousand euros	31/12/2018
Contract assets	**23,385**
Realization within one year	23,205
Realization within more than one year	180

The long-term share related to already fulfilled obligations arising from development services in the Defense & Civil Systems segment which will be billed to the customer via deliveries still be rendered in the future.

5.12 Other current financial assets

in thousand euros	31/12/2018	31/12/2017
Receivables from Mitarbeitertreuhand e.V.	1,880	1,728
Derivatives	171	3,008
Receivables from lease agreements	0	340
Miscellaneous current financial assets	3,217	230
Total	**5,268**	**5,307**

As in the prior year, in 2018 there were no restrictions on disposals of other current financial assets.

For details on receivables arising from lease contracts we refer to the Notes, section 5.4 from page 171.

In the current fiscal year, other current financial assets included, in particular, a receivable due from a credit institution arising from the settlement of a foreign exchange forward transaction to hedge a foreign currency loan in the intercompany area.

Default risks are taken into account through impairments. The composition of the carrying amount of other current financial assets is as follows:

in thousand euros	31/12/2018	31/12/2017
Gross amount of other current financial assets	6,557	6,596
Cumulative impairments	−1,289	−1,289
Carrying amount of other current financial assets	**5,268**	**5,307**

The following table shows the changes in impairment losses on other current financial assets:

in thousand euros	2018	2017
Impairments at 1/1	**1,289**	**1,504**
Additions	0	7
Consumption	0	40
Reversal/derecognition	0	183
Impairments at 31/12	**1,289**	**1,289**

5.13 Other current non-financial assets

in thousand euros	31/12/2018	31/12/2017
Accruals	4,254	3,266
Receivables from other taxes	2,317	1,640
Receivables from income taxes	2,593	340
Receivables from subsidies and grants	226	176
Miscellaneous current non-financial assets	523	644
Total	**9,912**	**6,067**

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

5.14 Current financial investments

in thousand euros	31/12/2018	31/12/2017
Fair value	59,476	64,577

The current financial investments primarily entailed cash deposits made in the sum of 59,476 thousand euros.

For financial investments valued at amortized acquisition costs, it is assumed that the fair values correspond to the carrying amounts, taking into account the impairments losses. A risk provision in the sum of 493 thousand euros was recognized for the first time as an impairment to cover the debtor's default risk, applying IFRS 9.

For further details on the financial instruments we refer to the Notes, section 8.2 from page 191.

5.15 Cash and cash equivalents

in thousand euros	31/12/2018	31/12/2017
Checks, cash on hand, bank balances and demand deposits with a maturity of less than 3 months	89,255	132,310

For further information on the change of cash and cash equivalents we refer to the section entitled "Details on the cash flow statement" from page 187. In addition, in application of IFRS 9, an impairment of 500 thousand euros was recorded on the bank deposits as a provision for the default risk in fiscal year 2018.

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 registered no-par value 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 August 21, 2014, Deutsche Asset & Wealth Management Investment GmbH, Frankfurt, Germany, notified us that it had exceeded the threshold of 5 percent of the voting rights in JENOPTIK AG on August 19, 2014. Accordingly, Deutsche Asset & Wealth Management Investment GmbH directly held 5.20 percent of the voting rights (2,978,179 voting rights) in JENOPTIK AG on that day. Of which 5.06 percent of the voting rights (2,898,579 voting rights) were held directly by Deutsche Asset & Wealth Management Investment GmbH and 0.14 percent of the voting rights (79,600 voting rights) were attributable to it on this date in accordance with § 22 (1) (1) No. 6 of the WpHG (old version).

Capital Group Companies, Inc., Los Angeles, California, USA, notified us on December 12, 2018 that it had exceeded the threshold of 5 percent of the voting rights in JENOPTIK AG, Jena, Germany, on December 10, 2018. Accordingly, on that day Capital Group Companies, Inc. held 5.01 percent of the voting rights (2,867,000 voting rights) which were attributable to it indirectly in accordance with § 34 of the WpHG (new version). More than 3 percent of the voting rights are held by the SMALLCAP World Fund, Inc.

SMALLCAP World Fund, Inc., Baltimore, Maryland, USA, notified us on February 4, 2019 that it had exceeded the threshold of 5 percent of the voting rights in JENOPTIK AG, Jena, Germany, on January 31, 2019. Accordingly, on that day SMALLCAP World Fund, Inc. held 5.04 percent of the voting rights (2,885,141 voting rights) which were attributable to it directly in accordance with § 33 of the WpHG (new version).

Templeton Investment Counsel, LLC, Wilmington, Delaware, USA, notified us on June 21, 2018 that it had exceeded the threshold of 3 percent of the voting rights in JENOPTIK AG, Jena, Germany, on June 20, 2018. Accordingly, on that day Templeton Investment Counsel, LLC held 2.98 percent of the voting rights (1,707,585 voting rights) which were attributable to it indirectly in accordance with § 34 of the WpHG (new version).

BlackRock, Inc., Wilmington, USA, notified us on June 13, 2018 that it had exceeded the threshold of 3 percent of the voting rights in JENOPTIK AG, Jena, Germany, on June 8, 2018. Accordingly, BlackRock, Inc., held 3.17 percent of the voting rights (1,812,914 voting rights) on that day. 3.02 percent of the voting rights (1,721,197 voting rights) were attributable to BlackRock, Inc. indirectly in accordance with § 34 of the WpHG. 0.02 percent of the voting rights (2,052 voting rights) were attributable to instruments in accordance with § 38 (1) (1) of the WpHG (new version) and 0.15 percent of the voting rights (83,665 voting rights) to instruments in accordance with § 38 (1) (2) of the WpHG (new version).

The Ministry of Finance, Oslo, Norway, notified us on November 4, 2016 on behalf of the Norwegian state that it had exceeded the threshold of 3 percent of the voting rights in JENOPTIK AG on November 2, 2016. Accordingly, on that day the Ministry of Finance held 3.06 percent of the voting rights (1,752,411 voting rights) which were attributable to it in accordance with § 22 of the WpHG (old version). The voting rights are held directly by the Norges Bank, Oslo, Norway.

The Oppenheimer International Small-Mid Company Fund, Wilmington, Delaware, USA, notified us on January 30, 2018 that it had exceeded the threshold of 3 percent of the voting rights in JENOPTIK AG on January 25, 2018. Accordingly, the Oppenheimer International Small-Mid Company Fund held 3.16 percent of the voting rights (1,808,844 voting rights) on that day. Oppenheimer Funds, Inc., Denver, Colorado, USA has an indirect investment via the Oppenheimer International Small-Mid Company Fund.

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

Authorized capital

An "Authorized Capital 2015" was created with the resolution passed by the Annual General Meeting on June 3, 2015 as follows: The Executive Board is authorized up to June 2, 2020, 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 contribution in kind

("Authorized Capital 2015"). 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 of shareholders in certain cases: a) for fractional amounts; b) capital increases against contributions in-kind, in particular also within the framework of corporate mergers or the acquisition of companies, parts 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) in the event of capital increases against cash contributions, to the extent that the portion of the nominal capital attributable to the new shares, taking into account resolutions at the Annual General Meeting and/or the utilization of other authorizations to exclude the subscription right in direct or corresponding application of § 186 (3) (4) of the Stock Corporation Act (AktG) since the date on which such authorization becomes effective, neither exceeds a total of ten percent of the nominal capital as of the date of registration for such authorized capital, nor exceeds a total of ten percent of the nominal capital in existence as of the date of issuance of the new shares and the issue price of new shares is not significantly below the stock exchange price; d) issue 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 20 percent of the nominal capital available at the time this authorization became effective – or, if this value is lower, to 20 percent of the nominal capital at the time this authorization is exercised. This limit of 20 percent includes shares that (i) are sold for the purpose of servicing option and/or convertible bonds that were or could still be issued during the period of validity of the authorized capital to the exclusion of subscription rights or (ii) are sold by the company 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.

Conditional Capital

The shareholder resolution passed at the Annual General Meeting held on June 7, 2017, to contingently raise the share capital of the entity by up to 28,600 thousand euros through the issue of up to 11,000,000 new no-par value shares ("Conditional Capital 2017"). The conditional capital increase will only be executed to the extent that

- the creditors / owners of option and / or conversion rights arising from option and / or convertible bonds issued up to June 6, 2022 by the company or a domestic or foreign incorporated company in which the company has a direct or indirect majority stake, pursuant to the authorization resolution of the Annual General Meeting dated June 7, 2017, exercise their option or conversion rights and/or
- the creditors of the issued convertible bonds obliged to exercise their conversion rights which were issued by the company or a domestic or foreign incorporated 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 7, 2017, fulfill their conversion obligation by June 6, 2022 and/or tenders for shares are issued and neither own 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 to the appropriation of profits. The Executive Board is authorized, with the consent of the Supervisory Board, to specify additional details on the issuance of the conditional capital increase.

If the authorization to issue option and/or convertible bonds to the exclusion of subscription rights is exercised, this authorization is limited in the sense that the pro rata amount of nominal capital corresponding to those shares that must be issued after exercising conversion and / or option rights / obligations may not account for more than 20 percent of the nominal 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 20 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.

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 designated as at fair value through 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 2018 fiscal year value adjustments to equity instruments measured through other comprehensive income amounted to minus 22 thousand euros (prior year: minus 270 thousand euros). The resultant deferred taxes totaled 6 thousand euros (prior year: minus 32 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 minus 4,760 thousand euros (prior year: 4,456 thousand euros) less deferred taxes in the sum of 1,413 thousand euros (prior year: minus 1,325 thousand euros). The accumulated foreign currency exchange differences encompass the effects arising from foreign currency conversions of the separate financial statements of subsidiaries whose operating currency deviates from that of the Group, as well as effects arising from foreign currency conversions of assets and liabilities held in foreign currencies in the total sum of 692 thousand euros (prior year: minus 8,016 thousand euros). The applicable deferred taxes changed in the sum of minus 258 thousand euros (prior year: 483 thousand euros).

Actuarial gains arising from the valuation of pensions are recognized in the sum of 599 thousand euros (prior year: 1,156 thousand euros). The resultant deferred taxes totaled minus 88 thousand euros (prior year minus 298 thousand euros).

In the 2018 fiscal year the change in deferred taxes recognized outside of profit or loss led to an increase in the reserves in the total sum of 1,073 thousand euros (prior year: reduced by 1,173 thousand euros). The amount of deferred tax assets in equity totaled 5,861 thousand euros (prior year: 4,788 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 use is made of this authorization 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 et seq. 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 AktG), on the stock exchange or by means of a public offering or a public invitation to the shareholders to submit an offer for sale. Further details regarding the buyback of treasury shares are described in the invitation under agenda item 9 to the Annual General Meeting 2018, accessible to the general public, on our website at www.jenoptik.de under the heading Annual General Meeting.

5.17 Non-controlling interests

This balance sheet item 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.

As a result of the acquisition of shares of non-controlling shareholders, the amounts attributable to the acquired shares were reclassified as retained earnings in the fiscal year 2018.

5.18 Provisions for pensions and similar obligations

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. 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 contribu-

tions 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 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 were treated as defined benefit plans for the first time in 2017 due to the ongoing low interest rate phase and the associated claim risk arising from the subsidiary liability. In 2018, the determination of the existing risk was revised to the existing earned portion, resulting in a decrease in the obligation as well as the plan assets.

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.

In deviation from the previous year, pensioners in Switzerland will no longer be included in the determination of defined benefit plans as there will be no further claims against the company from the date they retire. The resulting effects on the pension obligations and plan assets were recognized in other comprehensive income in 2018.

The benefit commitment of the Group cover 1,167 entitled persons, including 482 active employees, 158 former employees, as well as 527 retirees and survivors.

In compliance with IAS 19, the assets held by the Mitarbeitertreuhand e. V., Jena, are offset as plan assets against pension obligations. The pension obligations of JENOPTIK Industrial Metrology Switzerland SA, JENOPTIK Advanced Systems GmbH and the commitments via the group provident fund are also covered by means of plan assets and are accordingly shown as a net amount. These plan assets are primarily managed by AXA Lebensversicherung AG and AXA Winterthur, Switzerland.

The change in the defined benefit obligations (DBO) is shown as follows:

in thousand euros	2018	2017
DBO at 1/1	**83,122**	**68,762**
Foreign currency exchange effects	443	−1,029
Current service cost	582	956
Contributions to the pension plans	133	133
Thereof by employees	133	133
Interest expenses	927	860
Actuarial gains (-) and losses (+)	−5,076	−74
Experience-based gains and losses	−4,833	−410
Changes from demographic assumptions	728	0
Changes from financial assumptions	−971	336
Transfers	0	256
Other changes	−3,856	15,792
Pension payments	−2,631	−2,533
DBO at 31/12	**73,644**	**83,122**

Experience-based gains and losses result in particular from the change regarding the inclusion of retirees in Switzerland.

Changes based on demographic assumptions are derived from the initial application of modified mortality tables for the existing pension obligations in Germany (Heubeck 2018 G).

The other changes relate to the reduction in the obligations arising from the reinsured provident fund; this reduction is also offset by a reduction in plan assets.

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

in thousand euros	2018	2017
Current service costs	582	956
Net interest expenses	538	502
Total expenses	**1,120**	**1,458**

The amounts shown above are generally included in the personnel expenses of the functional areas. The interest charged on the obligation as well as the interest received on plan assets is recorded in the interest result.

Changes in plan assets are shown as follows:

in thousand euros	2018	2017
Plan assets at 1/1	**46,055**	**31,134**
Foreign currency exchange effects	296	−700
Interest income from plan assets	390	358
Return on plan assets less interest income	−4,572	1,354
Contributions	267	266
Employers	133	133
Employees	133	133
Transfers	0	256
Administrative expenses	−16	0
Other changes	−3,826	15,517
Pension payments	−2,290	−2,130
Plan assets at 31/12	**36,304**	**46,055**

The result of the plan assets includes the effects arising from the exclusion of the pensioners in Switzerland. The adjustment to the risk assessment arising from the reinsured provident fund is shown as other change.

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

in thousand euros	2018	2017
Present value of the obligation covered by plan assets	68,458	77,600
Plan assets	−36,304	−46,055
Net liability of the obligation covered by plan assets	32,154	31,545
Net liability of the obligation not covered by plan assets	5,186	5,521
Total	**37,339**	**37,066**

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

in thousand euros	2018	2017
Loans rendered (loans and receivables)	2,930	4,407
Insurance contracts	16,981	24,536
Stocks and other securities	7,475	5,472
Investments	6,226	6,426
Cash equivalents	4,572	6,943
Other assets and liabilities	−1,880	−1,728
Total	**36,304**	**46,055**

There is an active market for the stocks and other securities held in plan assets.

Insurance contracts in the sum of 11,962 thousand euros relate to pension insurance policies with AXA Lebensversicherung AG. The insurance company’s investments were mainly in equities and investment assets, debenture loans and fixed-interest bearing securities. There are also existing insurance contracts in the sum of 4,267 thousand euros as a result of the pension plan of AXA Fondation LPP (Switzerland).

Other liabilities relate to repatriation obligations due to pension payments made in 2018 from the plan assets to JENOPTIK AG. The actuarial assumptions are shown in the table below. Where applicable, the above-mentioned assumptions allow for anticipated inflation.

in percent	2018	2017
Discount rate		
Germany	1.71	1.68
Switzerland	0.75	0.66
Expected salary increases		
Germany	2.75	2.67
Switzerland	1.75	0.35
Expected pension increases		
Germany	1.67	1.59
Switzerland	0	1.00

The discounting factor was applied accordingly to the yield from the plan assets in the fiscal year 2018 for calculating the DBO for the prior year at 390 thousand euros (prior year: 358 thousand euros). The actual yield from the plan assets was minus 4,182 thousand euros (prior year: 1,712 thousand euros) and includes in particular the effects arising from the change in the presentation of the pensioners in Switzerland.

A change in the key actuarial assumptions as of the balance sheet would influence the DBO as follows:

	Change in the DBO	
in thousand euros	Increase	Reduction
Discount rate – change by 0.5 percentage points	−8,552 (−6,763)	9,269 (6,026)
Expected salary increases – change by 1.0 percentage points	226 (162)	−229 (−69)
Expected pension increases – change by 1.0 percentage points	8,065 (8,642)	−5,818 (−7,217)

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.

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

As of December 31, 2018, the weighted average remaining service period was 8 years and the weighted average remaining maturity of the obligation was 16 years.

The financing of the pension plans of JENOPTIK Advanced Systems GmbH, Wedel and JENOPTIK SSC GmbH, Jena, is performed by using a CTA model. The pension plan of JENOPTIK Industrial Metrology Switzerland SA provides for risk participation by the beneficiaries on transition to retirement. In this context, the pension plan is financed by contributions from both the employer and the employees.

The anticipated pension payments arising from the pension plans as of December 31, 2018 for the following fiscal year amount to 2,514 thousand euros (prior year: 2,579 thousand euros) and for the subsequent four fiscal years to a total of 12,191 thousand euros (prior year: 12,818 thousand euros).

Defined contribution plans

Within the framework of the defined contribution plans, expenses for 2018 totaled 19,512 thousand euros (prior year: 18,075 thousand euros), this figure including contributions to statutory pension insurance providers in the sum of 14,986 thousand euros (prior year: 13,893 thousand euros).

5.19 Tax provisions

in thousand euros	31/12/2018	31/12/2017
Provisions for income taxes	8,764	8,870
Provisions for other taxes	236	67
Total	**9,000**	**8,938**

Details on income tax expenses are provided in Note 4.11 from page 163.

5.20 Other provisions

The development of other provisions is as follows:

in thousand euros	Balance at 1/1/2018	Foreign currency exchange effects	Changes in the group of entities consolidated	Additions	Compound interest	Utilization	Reversals	Balance at 31/12/2018
Personnel	28,221	−20	1,192	25,178	37	−19,245	−2,363	33,001
Guarantee and warranty obligations	20,922	1	81	15,377	35	−5,836	−1,246	29,334
Trademark and license fees	3,261	0	0	0	0	0	−2,204	1,057
Onerous contracts	1,599	138	71	309	0	−1,010	−103	1,004
Price adjustments	1,423	0	0	375	39	0	−439	1,398
Restructuring	137	0	0	0	0	0	−137	0
Others	11,595	−1,686	24	3,008	113	−2,497	−1,365	9,192
Total	**67,159**	**−1,567**	**1,368**	**44,247**	**223**	**−28,588**	**−7,858**	**74,985**

Key items in the personnel provisions relate to performance bonuses, profit sharing, and similar commitments, as well as to the share-based payments for the Executive Board and some senior management personnel. Personnel provisions also include anniversary of service payments in the sum of 2,826 thousand euros (prior year: 2,627 thousand euros) and partial retirement obligations in the sum of 2,372 thousand euros (prior year: 1,286 thousand euros). Actuarial expert opinions were obtained for the partial retirement obligations with the assumption of income increasing by 2.8 percent (prior year: 2.7 percent). The amount of the liability for top-up payments already earned as of December 31, 2018 was 828 thousand euros (prior year: 609 thousand euros).

The provision for guarantee and warranty obligations include expenses for individual guaranty cases as well as for general guarantees. The calculation of the provision for general guarantee risks was 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 2018 fiscal year chiefly comprise guarantee and warranty provisions for specific individual cases for which the underlying obligations no longer existed.

The provision for trademark and license fees relate to risks in connection with potential patent infringement as well as license cost risks. The reversal resulted from the latest findings and the fact that on the basis of time passed the risk of a patent infringement action being filed was only considered to be low.

The provision for pending losses mainly included the liability overhang for individual customer projects. The utilization resulted mainly from a customer-specific project of the Mobility segment.

Provisions for price adjustments exist for customer contracts that were subject to the risk of subsequent changes in selling prices. Additions and reversals were made to revenue.

Other provisions included, amongst others, provisions for claims for damages. With the introduction of IFRS 15, the provisions for possible contractual penalties arising from customer orders were shown as contractual liabilities with effect from the 2018 fiscal year. Other provisions also included numerous identifiable specific risks as well as contingent liabilities, accounted for in the amount of the best possible estimate of the settlement sum. Additions in the 2018 fiscal year included, among other things, the Supervisory Board remuneration as well as expenses arising from decommissioning obligations.

133 – 206 Consolidated Financial Statements

The anticipated claims by maturity are shown below:

in thousand euros	up to 1 year	1 – 5 years	more than 5 years	2018
Personnel	25,729	5,540	1,731	33,001
Guarantee and warranty obligations	24,711	4,623	0	29,334
Trademark and license fees	1,048	9	0	1,057
Onerous contracts	660	344	0	1,004
Price adjustments	499	899	0	1,398
Others	6,059	1,534	1,598	9,192
Total	**58,706**	**12,949**	**3,329**	**74,985**

5.21 Share-based payments

As of December 31, 2018, the Jenoptik Group had at its disposal share-based payment instruments in the form of virtual shares for both active Executive Board members and some senior management personnel. In this context, a distinction must be drawn between Long Term Incentives of the Executive Board remuneration system that was applicable for Dr. Michael Mertin up to his date of departure and for Hans-Dieter Schumacher up to the end of 2017 and the remuneration system for some senior management personnel ("LTI") as well as the Performance Shares in accordance with the new Executive Board remuneration system.

The effect of the share-based payment on the statement of income as well as the statement of financial position in the 2018 fiscal year was as follows:

	Profit or loss		Statement of financial position	
in thousand euros	2018	2017	2018	2017
Virtual shares for the current year	−398	−646	398	646
Virtual shares for prior years	−1,184	−902	3,492	1,972
Total	**−1,582**	**−1,547**	**3,890**	**2,617**

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 a 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-year targets have been achieved on completion of the term. In the event of the departure of a member of the Executive Board before the end of the term, the LTI is paid out early in cash. In the event of 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 1st quarter of the fiscal year 2018 Performance Shares in a total of 24,854 units were allocated provisionally to the members of the Executive Board. The virtual shares allocated for the members of the Executive Board for fiscal years 2015 to 2018 were valued at the fair value as of the 2018 balance sheet date and recognized in provisions.

The development of the Executive Board's virtual shares is shown in the following tables:

in units	Number for 2018	Number for 2017
Dr. Stefan Traeger (Chairman of the Executive Board since May 1, 2017)		
1/1	11,284	0
Granted for period	14,202	11,284
31/12	25,486	11,284
Hans-Dieter Schumacher		
1/1	55,038	39,794
Granted for period	10,652	14,819
Granted for protection of existing shares in case of dividend payment	476	425
31/12	66,166	55,038
Dr. Michael Mertin (Chairman of the Executive Board up to April 30, 2017)		
1/1	0	283,154
Paid out	0	283,154
31/12	0	0

The expenses arising from share-based payments, recognized in fiscal year 2018 and apportioned to Dr. Stefan Traeger totaled 110 thousand euros (prior year: 292 thousand euros) and to Hans-Dieter Schumacher 567 thousand euros (prior year: 738 thousand euros).

For all further disclosures, we refer to the Remuneration Report in the section Corporate Governance which forms part of the Combined Management Report.

Virtual shares are also granted to some members of the top management. The number of virtual shares is usually determined on the basis of target achievement as well as on the volume-weighted average closing price of the Jenoptik share in the 4th quarter of the calendar year before the last. 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 forfeited, depending on the reasons for the departure.

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

in units	Number for 2018	Number for 2017
Members of the Executive Management Committee		
1/1	83,073	109,726
Granted for period	12,073	15,967
Granted for adjusted achievement of prior year's goals	−1,072	−644
Forfeited rights	0	−7,953
Paid out	−18,240	−34,023
31/12	75,834	83,073

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	Total
Liabilities to banks	9,294 (19,157)	108,227 (107,883)	117,521 (127,040)
Liabilities from finance leases	829 (180)	3,178 (690)	4,007 (871)
Total	**10,123** **(19,337)**	**111,405** **(108,573)**	**121,528** **(127,910)**

The figures in brackets relate to the prior year.

The liabilities to banks up to a term of one year mainly comprise the utilization of the revolving credit lines of the Chinese subsidiary in the sum of 5,718 thousand euros as well as the repayments, due in 2019, of the loan for financing the investments at the Michigan, USA, site in the sum of 1,747 thousand euros. The current liability to banks reported in the previous year also still includes the tranche of the debenture loan due in 2018.

The liabilities to banks with a term of one to five years include, in particular, further tranches of the debenture loans in the nominal amount of 103,000 thousand euros, as well as the non-current financial debt of JENOPTIK Automotive North America LLC.

As at the balance sheet date, the syndicated loan was utilized for guarantees in the sum of 17,023 thousand euros. Taking into account the other lines of financing not fully utilized as of the balance sheet date 220,179 thousand euros of guaranteed, existing lines of credit were unused.

The liabilities arising from financing leases include, in particular, the financing of technical equipment and machinery.

5.23 Other non-current financial liabilities

in thousand euros	31/12/2018	31/12/2017
Liabilities from acquiring associates	1,234	417
Derivatives	1,360	3
Non-current trade payables	69	0
Total	**2,664**	**420**

Liabilities arising from the acquisition of associated companies include the long-term portion of the conditional purchase price payment agreed as part of the acquisition of OTTO Vision Technology GmbH and OVITEC GmbH. The liability arising from the acquisition of Five Lakes Automation LLC was reclassified into the short-term liabilities in the current fiscal year.

Further disclosures on derivatives are provided in Note 8.2 from page 191.

5.24 Current trade payables

This item includes:

in thousand euros	31/12/2018	31/12/2017
Trade payables towards third parties	60,074	61,523
Trade payables towards unconsolidated associates and joint operations	16	116
Trade payables towards investment companies	11	18
Total	**60,102**	**61,657**

5.25 Other current financial liabilities

This item includes:

in thousand euros	31/12/2018	31/12/2017
Other liabilities towards unconsolidated associates and joint operations	2,127	2,854
Derivatives	1,857	676
Liabilities from acquiring associates	1,140	2,711
Interest payables	679	785
Miscellaneous current financial liabilities	1,779	1,628
Total	**7,582**	**8,654**

Liabilities to unconsolidated associates and joint operations primarily include liabilities to a joint operation in the sum of the non-consolidated portion of 2,124 thousand euros (prior year: 2,845 thousand euros). Standard market interest rates were agreed for liabilities.

In 2018, liabilities arising from the acquisition of associates related to the current portion of the conditional purchase price payment as well as the liabilities arising from the subsequent adjustment in the purchase price for the acquisition of the OTTO Group in the sum of 684 thousand euros. In addition, the acquisition of Five Lakes Automation LLC gave rise to an earn-out liability on the sum of 437 thousand euros (prior year: 2,085 thousand euros). In 2017, the acquisition of the Vysionics Group also gave rise to a liability from an agreed put option for the purchase of the remaining shares.

The item derivative financial instruments is explained in greater detail under Note 8.2 from page 191.

5.26 Contract liabilities

This balance sheet item was reported for the first time in the 2018 fiscal year as a result of the application of IFRS 15 and shows the Group’s obligations to transfer goods or services to a customer from which it has received a consideration in return or for which a requested advance is due.

As at January 1, 2018 contract liabilities totaled 30,400 thousand euros, of which 23,420 thousand euros were realized in the fiscal year just past.

The scheduled fulfillment of the contract liabilities as of the balance sheet date December 31, 2018 is shown in the table below:

in thousand euros	31/12/2018
Contract liabilities	**53,273**
Realization within one year	45,314
Realization within more than one year	7,959

The long-term portion essentially includes advances received from customers of the Defense & Civil Systems segment for long-running contracts. There were no significant financing components.

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

in thousand euros	31/12/2018
Transaction price of performance obligations not completely fulfiled	**521,497**
Realization within the next fiscal year	412,806
Realization within the next but one fiscal year	60,817
Realization within later fiscal years	47,874

5.27 Other current, non-financial liabilities

in thousand euros	31/12/2018	31/12/2017
Liabilities to employees	9,779	8,287
Accruals	1,768	2,816
Liabilities from other taxes	4,353	5,387
Liabilities from social security	1,382	1,307
Liabilities to employer's insurance association	1,283	1,065
Liabilities from advance payments received	0	28,169
Miscellaneous current non-financial liabilities	338	222
Total	**18,903**	**47,253**

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

Liabilities from other taxes essentially comprise liabilities arising from sales tax.

With the introduction of IFRS 15, liabilities from advances received were shown under contract liabilities.

6 Disclosures on Cash Flows

Liquid funds comprise the cash and cash equivalents recognized in the statement of financial position in the sum of 89,255 thousand euros (prior year: 132,310 thousand euros) after taking into account a provision for losses in the sum of 500 thousand euros to cover the debtor default risk. Liquid funds are defined as the sum of cash on hand and demand deposits at banks with a 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. Changes in the balance sheet 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 entities consolidated are non-cash transactions and are therefore eliminated. Cash flows from operating activities are indirectly derived from earnings before tax. Earnings before tax are adjusted for non-cash income and expenses. The cash flow from operating activities is determined by taking into account the changes in working capital, provisions, and other operating balance sheet items.

The cash flows from current operating activities in the fiscal year just past totaled 135,490 thousand euros (prior year: 96,347 thousand euros). The main reason for the change to the prior year were the reduced payments in the working capital as well as the improved operating profit.

Cash flows from investing activities totaled minus 117,527 thousand euros (prior year: minus 42,164 thousand euros), characterized primarily in fiscal year 2018 by corporate acquisitions. These mainly include the acquisitions of Prodomax at 74,936 thousand euros and OTTO Vision Technology GmbH as well as OVITEC GmbH at 4,299 thousand euros. These values correspond to the purchase price payments minus acquired cash on hand. The conditional purchase price payment within the framework of the acquisition of Five Lakes Automation LLC, also influenced the cash flow in the sum 2,165 thousand euros. For details on the corporate acquisitions we refer to the section Entities acquired and sold from page 148 on.

In addition, capital expenditure for property, plant, and equipment in the sum of 36,564 thousand euros (prior year: 30,340 thousand euros) had a negative impact on the investment cash flow. More detailed information on the investments is provided in the section Earnings, financial and asset position in the Combined Management Report from page 90 on.

In addition, the cash flow for investing activities included net payments from current cash deposits in the sum of 4,140 thousand euros. By contrast, in the prior year net payments to cash deposits in the sum of 14,460 thousand euros had a negative impact on the cash flow.

Cash flows from financing activities amounted to minus 60,896 thousand euros (prior year: minus 12,909 thousand euros). The cash outflows arising from the dividends paid increased over the previous year as a result of the higher dividend payment compared with 2017 of 0.30 euros per share (prior year: 0.25 euros per share). The payments from the repayment of bonds and loans in the year under review essentially included the cash outflows arising from the repayment of the tranche of the debenture loans in the sum of 11,000 thousand euros due in 2018, as well as from the repayment of Prodomax's bank loan in the sum of 22,870 thousand euros as part of the acquisition. The change in the group financing included payments from or to associated, unconsolidated 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:

in thousand euros	Balance at 1/1/2018	Cash-effective change	Non cash-effective change: Foreign currency exchange effects	Non cash-effective change: Addition	Non cash-effective change: Change in the fair value	Non cash-effective change: Change in maturity	Balance at 31/12
Non-current financial debt	108,573	−16,193	216	21,490	208	−2,888	111,405
	(120,479)	(413)	(−966)	(723)	(222)	(−12,298)	(108,573)
Non-current liabilities to banks	107,883	−16,193	217	18,349	208	−2,237	108,227
	(120,434)	(475)	(−961)	(0)	(222)	(−12,287)	(107,883)
Non-current liabilities arising from finance leases	690	0	−2	3,141	0	−652	3,178
	(45)	(−62)	(−5)	(723)	(0)	(−11)	(690)
Current financial debt	19,337	−19,909	16	7,791	0	2,888	10,123
	(4,129)	(3,181)	(−454)	(182)	(0)	(12,298)	(19,337)
Current liabilities to banks	19,157	−19,200	17	7,083	0	2,237	9,294
	(4,088)	(3,236)	(−454)	(0)	(0)	(12,287)	(19,157)
Current liabilities arising from finance leases	180	−709	−1	708	0	652	829
	(41)	(−54)	(0)	(182)	(0)	(11)	(180)
Total	**127,910**	**−36,102**	**232**	**29,281**	**208**	**0**	**121,528**
	(124,608)	**(3,595)**	**(−1,420)**	**(905)**	**(222)**	**(0)**	**(127,910)**

The figures in brackets relate to the prior year.

The non cash-effective additions include additions from changes in the group of entities consolidated in the sum of 25,432 thousand euros (prior year: 0 thousand euros).

Information regarding the allocation of free cash flows to the segments is provided in the Segment Report from page 103.

The total amounts for cash flows from operating, investing and financing activities of the proportionately consolidated joint operation are of minor significance for Jenoptik.

Additional information on the consolidated statement of cash flows is provided in the Combined Management Report in the section Financial Position.

7 Disclosure on Segment Reporting

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 internal group 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 Group in the basic accounting principles.

Since 2016, Jenoptik has been reporting on the Optics & Life Science, Mobility as well as Defense & Civil Systems segments. The mechatronics business of the Defense & Civil Systems division has been presented under the new VINCORION brand since autumn 2018. In the future the product offering and the expertise in the aviation, security and defense and rail markets will be combined under this brand. In addition, a strategic realignment was carried out in 2018 which will now cluster the business segments into three divisions from the 2019 fiscal year: "Light & Optics" (OEM business), "Light & Production" (industrial customer business) and "Light & Safety" (business with public sector contractors).

More information on the applicable organizational structure of the Jenoptik Group and the realignment with effect from 2019, is provided in the Combined Management Report in the section General Group Information from page 70.

The Optics & Life Science segment pools the activities in the Healthcare & Industry and Optical Systems businesses. In this field Jenoptik is one the few development and production partners worldwide for optical and micro-optic systems and precision components used in the semiconductor equipment industry, in IT and communication technologies, and for security and defense technology. In addition, the segment develops and manufactures specific system and application solutions for customers worldwide in the medical technology and life sciences sectors. It also offers industry high-performance opto-electronic components and modules as well as integrated solutions for laser, automotive and lighting applications.

The Mobility segment pools the activities in the automotive and traffic safety markets. Mobility and infrastructure are closely interlinked mega trends of the future. The components and system solutions of this segment increase the efficiency of products and production processes in the automotive market. In addition, the traffic flows in the global economic centers are daily becoming more complex. The solutions provided by the segment ensure that traffic infrastructure in the future will not only remain manageable but also become safer.

The Defense & Civil Systems segment develops, manufactures and markets mechatronic and sensor products for civilian and military markets. Its portfolio ranges from individual assemblies for customers to integrate in their systems, through to turnkey solutions and end products.

The activities of the holding company, the Shared Service Center and real estate management are summarized under Other.

The "Consolidation" column comprises the business relationships to be consolidated between the segments as well as the required 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 in excess of 10 percent of the total revenue of the Jenoptik Group was generated with one customer of the Optics & Life Science segment (92,158 thousand euros). There were no
customer relationships with individual customers whose share of revenue is significant 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.

7.1 Segment Report

in thousand euros	Optics & Life Science	Mobility	Defense & Civil Systems	Other	Consolidation	Group
Revenue	290,006	327,789	218,582	48,475	−50,281	834,571
	(259,379)	(270,072)	(219,319)	(36,454)	(−37,296)	(747,929)
of which intra-group revenue	4,837	144	526	44,774	−50,281	0
	(4,298)	(48)	(164)	(32,787)	(−37,296)	(0)
of which external revenue	285,169	327,644	218,056	3,701	0	834,571
	(255,082)	(270,024)	(219,155)	(3,667)	(0)	(747,929)
Germany	56,251	96,720	83,970	3,541	0	240,483
	(50,109)	(75,406)	(93,700)	(3,414)	(0)	(222,629)
Europe	107,142	71,360	66,196	0	0	244,698
	(97,093)	(67,822)	(47,337)	(0)	(0)	(212,252)
of which Great Britain	2,239	15,713	16,123	0	0	34,075
	(3,013)	(24,605)	(8,373)	(0)	(0)	(35,991)
of which the Netherlands	91,063	3,039	3,104	0	0	97,206
	(81,173)	(3,355)	(2,847)	(0)	(0)	(87,375)
Americas	60,730	91,885	55,133	1	0	207,748
	(48,161)	(65,535)	(59,927)	(2)	(0)	(173,625)
of which the USA	57,450	58,304	54,504	0	0	170,259
	(46,815)	(49,728)	(58,558)	(0)	(0)	(155,100)
of which Canada	3,260	17,023	626	0	0	20,910
	(1,322)	(7,881)	(1,367)	(0)	(0)	(10,570)
Middle East/Africa	15,149	17,578	8,088	0	0	40,815
	(12,048)	(6,257)	(9,812)	(0)	(0)	(28,117)
Asia / Pacific	45,897	50,101	4,669	158	0	100,826
	(47,671)	(55,004)	(8,379)	(251)	(0)	(111,304)
of which China	12,314	28,849	1,147	0	0	42,309
	(9,507)	(28,414)	(808)	(0)	(0)	(38,729)
of which Singapore	23,169	470	326	0	0	23,966
	(21,217)	(548)	(478)	(104)	(0)	(22,347)
EBITDA	69,943	40,529	24,374	−7,277	−22	127,548
	(58,704)	(27,875)	(23,849)	(−3,486)	(2)	(106,944)
EBIT	62,317	27,696	20,110	−15,199	−15	94,910
	(50,486)	(18,537)	(19,162)	(−10,149)	(9)	(78,044)
Research and development expenses	−15,736	−17,492	−14,201	−252	239	−47,443
	(−13,449)	(−16,391)	(−12,577)	(−713)	(51)	(−43,078)
Free cash flow (before income taxes)	52,728	45,544	25,500	−14,054	−1,442	108,276
	(47,471)	(10,125)	(22,281)	(17,834)	(−25,473)	(72,238)
Working capital	64,139	69,931	86,775	−4,155	119	216,810
	(55,808)	(68,915)	(96,179)	(−6,035)	(−98)	(214,769)
Order intake	350,792	319,334	203,513	48,751	−48,667	873,723
	(295,460)	(303,655)	(206,175)	(36,350)	(−38,738)	(802,902)
Frame contracts	11,849	19,203	31,417	0	0	62,468
	(11,128)	(30,150)	(46,334)	(0)	(0)	(87,612)
Assets	208,455	358,410	177,066	843,755	−601,777	985,908
	(181,248)	(241,019)	(179,056)	(779,719)	(−491,916)	(889,126)
Liabilities	75,625	269,854	123,607	171,227	−252,356	387,957
	(53,913)	(183,062)	(125,838)	(174,647)	(−178,265)	(359,194)
Additions to intangible assets, property, plant, and equipment and investment property	16,446	13,780	5,655	6,636	0	42,516
	(11,276)	(17,480)	(4,488)	(4,658)	(0)	(37,902)

in thousand euros	Optics & Life Science	Mobility	Defense & Civil Systems	Other	Consolidation	Group
Scheduled depreciation/amortization	−7,661	−11,670	−4,265	−6,982	7	−30,569
	(−7,996)	(−9,338)	(−4,688)	(−6,664)	(7)	(−28,678)
Impairment losses	0	−1,195	0	−941	0	−2,136
	(−248)	(0)	(0)	(0)	(0)	(−248)
Number of employees on average excluding trainees	1,163	1,359	855	337	0	3,714
	(1,097)	(1,259)	(837)	(307)	(0)	(3,500)

EBITDA = Earnings before interest, taxes, depreciation and amortization
EBIT = Earnings before interest and taxes
The figures in brackets relate to the prior year.

7.2 Non-current assets by regions

in thousand euros	31/12/2018	31/12/2017
Group	396,560	290,597
Germany	214,996	194,752
Europe	48,773	45,520
thereof Great Britain	43,187	42,425
Americas	126,073	43,202
thereof USA	43,446	43,202
thereof Canada	82,628	0
Asia/Pacific	6,718	7,123

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.

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 and the net debt as part of the regular management reporting. In the event of significant deteriorations in the parameters, alternative courses of action are worked out and the corresponding measures implemented.

As of December 31, 2018, Jenoptik Group has concluded a syndicated loan in the sum of 230,000 thousand euros and several debenture loans in the total amount of 103,000 thousand euros as material financing contracts. Further details can be found in the Notes under item 8.2.3 Liquidity risk (see page 194 f.). For the existing debenture loans, no agreement was reached on compliance with certain financial ratios. In the case of the syndicated loan, compliance with certain ratios with regard to gearing (gross financial debt to equity) and equity was agreed. These financial ratios were complied with at all times in the 2018 fiscal year.

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.

Detailed information on the risk management and control of risks is shown in the Combined Management Report in section Risk and Opportunity Report (see page 113). Additional information on capital management disclosures is provided in the Economic Report in the chapter Financial Position (see page 96).

The risks described above impact on the financial assets and liabilities which are shown below.

Financial assets:

in thousand euros	Valuation category in accordance with IFRS 9 resp. IAS 39 [1]	Carrying amounts 31/12/2018	Valuation in statement of financial position in accordance with IFRS 9 resp. IAS 39			Valuation in accordance with IAS 17
			Amortized acquisition costs	Fair value – through other comprehensive income	Fair value – through profit or loss	
Financial investments						
Current cash deposits	AC	59,476 (64,169)	59,476 (64,169)			
Shares in unconsolidated associates and investments	FVTOCI	1,569 (2,812)		1,569 (2,812)		
Shares in entities which are subject to the equity valuation	AC	5,191 (0)	5,191 (0)			
Available-for-sale financial assets	AC	0 (867)	0 (867)			
Loans granted	AC	10 (730)	10 (730)			
Financial assets to be held to maturity	AC	0 (408)	0 (408)			
Trade receivables	AC	131,198 (136,017)	131,198 (136,017)			
Other financial assets						
Receivables from finance leases	–	0 (340)				0 (340)
Derivatives with hedging relations						
Forward exchange transactions/ currency swaps	–	128 (2,962)		128 (2,962)		
Derivatives without hedging relations						
Interest and currency swap	FVTPL	101 (225)			101 (225)	
Forward exchange transactions/ currency swaps	FVTPL	1,770 (1,778)			1,770 (1,778)	
Other financial assets	AC	5,460 (2,322)	5,460 (2,322)			
Cash and cash equivalents	AC	89,255 (132,310)	89,255 (132,310)			
Total		**294,158** **(344,937)**	**290,590** **(336,821)**	**1,697** **(5,773)**	**1,871** **(2,003)**	**0** **(340)**

The figures in brackets relate to the prior year.
[1] AC = Amortized acquisition costs
FVTPL = Fair value through Profit & Loss
FVTOCI = Fair value through other comprehensive income

Financial liabilities:

in thousand euros	Valuation category in accordance with IFRS 9 resp. IAS 39 [1]	Carrying amounts 31/12/2018	Valuation in statement of financial position in accordance with IFRS 9 resp. IAS 39			Valuation in accordance with IAS 17
			Amortized acquisition costs	Fair value – through other comprehensive income	Fair value – through profit or loss	
Financial debt						
Liabilities to banks	AC	117,521 (127,040)	117,521 (127,040)			
Liabilities arising from finance leases	–	4,007 (871)				4,007 (871)
Trade payables	AC	62,595 (61,657)	62,595 (61,657)			

134 Consolidated Statement of Comprehensive Income
136 Consolidated Statement of Financial Position
137 Consolidated Statement of Cash Flows
138 Statement of Changes in Equity
140 Notes

in thousand euros	Valuation category in accordance with IFRS 9 resp. IAS 39 [1]	Carrying amounts 31/12/2018	Valuation in statement of financial position in accordance with IFRS 9 resp. IAS 39			Valuation in accordance with IAS 17
			Amortized acquisition costs	Fair value – through other comprehensive income	Fair value – through profit or loss	
Other financial liabilities						
Contingent liabilities	FVTPL	1,671 (3,128)			1,671 (3,128)	
Derivatives with hedging relations						
Forward exchange transactions/ currency swaps	–	3,169 (486)		3,169 (486)		
Derivatives without hedging relations						
Interest swap	FVTPL	0 (182)			0 (182)	
Interest and currency swap	FVTPL	0 (0)			0 (0)	
Forward exchange transactions/ currency swaps	FVTPL	48 (11)			48 (11)	
Other financial liabilities	AC	5,288 (5,266)	5,288 (5,266)			
Total		**194,300** **(198,642)**	**185,404** **(193,963)**	**3,169** **(486)**	**1,719** **(3,322)**	**4,007** **(871)**

The figures in brackets relate to the prior year.
[1] AC = Amortized acquisition costs
FVTPL = Fair value through Profit & Loss

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

in thousand euros	Carrying amounts 31/12/2018	Level 1	Level 2	Level 3
Shares in unconsolidated associates and investments	1,569 (2,812)	0 (0)	0 (0)	1,569 (2,812)
Available-for-sale financial assets	0 (867)	0 (0)	0 (0)	0 (867)
Derivatives with hedging relations (assets)	128 (2,962)	0 (0)	128 (2,962)	0 (0)
Derivatives without hedging relations (assets)	1,871 (2,003)	0 (0)	1,871 (2,003)	0 (0)
Contingent liabilities	1,671 (3,128)	0 (0)	0 (0)	1,671 (3,128)
Derivatives with hedging relations (liabilities)	3,169 (486)	0 (0)	3,169 (486)	0 (0)
Derivatives without hedging relations (liabilities)	48 (194)	0 (0)	48 (194)	0 (0)

The figures in brackets relate to the prior year.

Fair values which are available as quoted market prices at all times, are allocated to level 1. Fair values determined on the basis of 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.

Fair values of available-for-sale financial assets are determined on the basis of stock exchange prices (level 1), respectively, discounted cash flows (level 3).

The fair values of all derivatives are determined using the generally recognized cash 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, Reuters. If an interpolation of market data is applied, this is done on a straight-line basis.

The fair value of contingent liabilities was measured by taking the expected and discounted payment outflows at the reporting date into consideration.

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 unconsolidated associates and investments	Available-for-sale financial assets	Contin-gent liabilities
Balance at 1/1/2018	**2,812**	**867**	**3,128**
Change in valuation category according to IFRS 9	0	−867	0
Additions	0	0	1,234
Disposals	0	0	−2,754
Change in the group of entities consolidated	−1,225	0	0
Gains and losses recognized in operating result	0	0	−5
Gains and losses recognized in financial result	0	0	−33
Foreign currency exchange effects	−18	0	100
Balance at 31/12/2018	**1,569**	**0**	**1,671**

The additions are the result of the variable components of the purchase price agreed within the framework of the acquisition of the OTTO Group that were recognized as a liability at the fair value in the sum of 1,234 thousand euros. Payment of these variable purchase price components is due in 2020. For materiality reasons, the figure was not discounted. Disposals in the sum of 2,754 thousand euros are the result of the payment of the first tranche of the variable purchase price components agreed in connection with the acquisition of Five Lakes Automation LLC, as well as from the exercising of the agreed put option for the purchase of the remaining non-controlling interests in the British Vysionics Group.

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 based on the analysis of credit ratings and credit default swaps (CDS), as well as through spreading the cash deposits between a number of banks within defined limits. In accordance with IFRS 9, impairments were also applied to cash and cash equivalents as well as to short-term cash deposits for the first time in 2018.

The maximum default risk corresponds to the carrying amount of the financial assets as of the reporting date in the sum of 294,158 thousand euros (prior year: 344,937 thousand euros). For further explanations we refer to Note 8.2 from page 192.

Impairment losses were recorded in the fiscal year for the following financial assets:

in thousand euros	2018	2017
Financial investments	935	763
Trade receivables	3,445	3,308
Other financial assets	0	7
Cash and cash equivalents	132	0
Total	**4,511**	**4,077**

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 as well as our financial flexibility at all times, the lines of credit, and level of utilization as well as the net cash and cash equivalents are planned by means of a five-year financial plan as well as a monthly, rolling 12 week liquidity forecast. The liquidity risk is also limited by effective cash and working capital management.

As of the balance sheet date the liquidity reserves are divided into cash and cash equivalents in the sum of 89,255 thousand euros (prior year: 132,310 thousand euros) and short-term cash deposits in the sum of 59,476 thousand euros (prior year: 64,169 thousand euros). In addition, the Group has a secured and unused line of credit available in the sum of 220,179 thousand euros (prior year: 232,220 thousand euros) which is mainly attributable to a syndicated loan of 230,000 thousand euros agreed up to March 2022 and only a small portion of which has currently been utilized.

in thousand euros	Interest rates (range in %)	Carrying amounts 31/12/2018	Cash outflows Total	Up to 1 year	1 to 5 years	More than 5 years
Variable interest-bearing liabilities to banks	0.8 – 5.29	32,285	33,193	6,287	26,906	0
	(0.8 – 6.12)	(33,002)	(34,049)	(6,860)	(27,189)	(0)
Fixed interest-bearing liabilities to banks	1.0 – 3.9	85,236	88,217	3,395	84,823	0
	(1.0 – 4.4)	(94,038)	(100,416)	(14,795)	(85,621)	(0)
Fixed interest-bearing liabilities from lease agreements	0.9 – 7.6	3,902	4,109	868	3,230	11
	(0.9 – 7.6)	(871)	(898)	(193)	(705)	(0)
Total		**121,422**	**125,520**	**10,550**	**114,959**	**11**
		(127,910)	**(135,363)**	**(21,848)**	**(113,515)**	**(0)**

The figures in brackets relate to the prior year.

Outstanding debenture loans in the sum of 103,000 thousand euros (prior year: 114,000 thousand euros) will be repaid in the years 2020 resp. 2022.

Cash outflows up to one year mainly include interest and redemption payments from short-term lines of credit for the operational business in China, as well as from the real estate financing conclude in 2016 in the United States. This item also includes interest payments for existing debenture loans.

The cash outflows in the time frame of between one to five years mainly include the repayments of the debenture loans with original terms of five and seven years.

Further details are provided under Note 5.22 on page 185.

Interest rate fluctuation risk

The Jenoptik Group is fundamentally exposed to the risks of changes in interest rates due to fluctuations in market interest rates, for all interest-bearing financial assets and liabilities. In the fiscal year 2018, this essentially related to debenture loans issued in the sum of 103,000 thousand euros (prior year: 114,000 thousand euros) as well as short-term cash deposits in the sum of 59,476 thousand euros (prior year: 64,169 thousand euros), as well as a portion of the cash and cash equivalents in the sum of 89,255 thousand euros (prior year: 132,310 thousand euros) at the respective balance sheet. Despite the current negative interest rate environment for short-term euro cash deposits, the Group has succeed in avoiding negative interests being applied to all interest-bearing financial assets.

in thousand euros	Carrying amounts 31/12/2018	31/12/2017
Interest-bearing financial assets	65,623	87,368
Variable interest	21,147	3,946
Fixed interest	44,476	83,421
Interest-bearing financial liabilities	121,422	127,910
Variable interest	32,285	33,002
Fixed interest	89,138	94,909

The constructed gains and losses arising from a change in the market interest rate as of December 31, 2018 within a bandwidth of 100 basis points are shown in the following table:

in thousand euros	31/12/2018	31/12/2017
Increase by 100 basis points		
Interest-bearing financial assets	656	874
Interest-bearing financial liabilities	– 1,214	– 1,279
Effect on earnings before tax	**– 558**	**– 405**
Reduction by 100 basis points		
Interest-bearing financial assets	– 656	– 874
Interest-bearing financial liabilities	1,214	1,279
Effect on earnings before tax	**558**	**405**

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 various interest rate hedging transactions. These include for example interest swaps, interest caps and floors, as well as combined interest and currency swaps. After an interest rate swap with a nominal volume of 8,000 thousand euros became due in October 2018, there was only one combined interest rate and currency swap in place as of the balance sheet date of December 31, 2018 with the following structure:

Interest and currency swap	
Nominal amount	CNY 17,980 thousand
Term	March 12, 2015 to March 12, 2025
Fixed interest rate	5.10 percent p. a.
Variable interest rate	6-month Euribor

This hedging transaction is used to secure an intra-group loan for real estate financing in Shanghai (China). The change in its market value of minus 123 thousand euros was recorded through profit or loss in the statement of income.

The following payments are anticipated from this interest rate hedging instruments:

in thousand euros	Up to 1 year	1 to 5 years	More than 5 years	Total
Interest swaps	0 (183)	0 (0)	0 (0)	0 (183)
Interest and currency swap	120 (121)	459 (448)	180 (259)	759 (827)

The figures in brackets relate to the prior year.

Foreign currency exchange risk

Currency risks are divided into two types: conversion risk and transaction risk.

The conversion risk arises from fluctuations caused by changes in exchange rates resulting from the conversion of existing foreign currency financial assets and liabilities into the balance sheet currency. Since this is not associated with any cash flows, no hedging is currently applied.

In connection with the acquisition of Prodomax Automation Ltd. in Canada, JENOPTIK AG issued two intra-group loans. A loan of 93,018 thousand Canadian dollars was issued to Prodomax Automation Ltd. itself. A second loan in the sum of 47,127 thousand USD was issued to its parent company, JENOPTIK North America Inc. Both loans have been declared as a “Net investment in a foreign operation” in accordance with the accounting principles, as no repayment of these loans is expected in the short term. Based on the aforementioned allocation for accounting purposes, the changes in the value of the loan receivables resulting from fluctuating exchange rates at the respective balance sheet dates, are recorded in equity outside of profit or loss. That is also the reason why no hedging was applied.

The transaction risk arise from the fluctuation of cash flows in foreign currencies caused by changes in currency exchange rates. Derivative financial instruments, primarily forward exchange transactions and currency swaps, are used to hedge this risk.

Hedging is provided for significant cash flows in foreign currencies arising from its operational business (revenue). Contractually agreed cash flows are hedged 1:1 via so-called micro-hedges. Planned cash flows are secured proportionally as part of the anticipatory hedging.

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” (mainly GBP), using derivative financial instruments.

As of the balance sheet date, existing forward exchange transactions and currency swaps totaled a nominal value of 134,762 thousand euros (prior year: 118,621 thousand euros). A so-called cash flow hedge relationship with the respective underlying transaction was documented for the vast majority of these transactions. Where these are proven effective, their changes do not have to be recorded through profit or loss. In order to measure the effectiveness, a prospective, quality-related effectiveness test has been conducted, on the designation date as well as on an ongoing basis, normally as of the balance sheet date, on the basis of the IFRS 9 “Financial instruments” accounting document which has been applicable since January 1, 2018.

Forward exchange transactions and currency swaps are grouped according to sales and purchases in foreign currencies (against the EUR respectively) as follows:

in thousand euros	31/12/2018	31/12/2017
USD sale	111,267	87,893
USD purchase	67	5,776
GBP sale	21,402	22,498
CNY sale	990	103
KRW sale	572	0
JPY sale	465	983
JPY purchase	0	466
AUD sale	0	902
Total foreign currency sales	**134,695**	**112,379**
Total foreign currency purchases	**67**	**6,242**

These forward exchange transactions and currency swaps produce the following market values:

in thousand euros	31/12/2018	31/12/2017
Positive market values		
Derivatives with hedging relations		
non-current	37	50
current	91	2,912
Derivatives without hedging relations		
non-current	1,828	1,907
current	43	97
Total positive market values	**1,999**	**4,965**
Negative market values		
Derivatives with hedging relations		
non-current	1,402	0
current	1,767	486
Derivatives without hedging relations		
non-current	7	3
current	40	191
Total negative market values	**3,217**	**680**

The market values for hedging transactions for intra-group loans are included in the derivatives without hedges as the underlying transaction comprising intra-group receivables and liabilities is deconsolidated. As of the balance sheet date the positive market values of these derivatives totaled 1,745 thousand euros (prior year: 1,778 thousand euros), the negative market values totaled 47 thousand euros (prior year: 11 thousand euros). The overall change led to a loss of 69 thousand euros (prior year: earnings of 553 thousand euros) which was recognized in the financial result through profit or loss.

Cumulative profits and losses in hedged derivatives in the sum of 2,556 thousand euros (prior year: minus 2,204 thousand euros) were recognized in equity outside profit or loss as at December 31, 2018. Of the profits and losses recognized in equity outside profit or loss as at December 31, 2017, in 2018 a reclassification in the sum of minus 1,537 thousand euros (prior year: minus 2,252 thousand euros) was carried out from equity to profit or 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 that the intended balancing effect of concluding the hedge transaction is seen in the statement of income.

The foreign currency hedging transactions hedge against foreign currency risks in the sum of 70,477 thousand euros with a time frame up to the end of 2019. Foreign currency risks in the sum of 64,151 thousand euros are hedged with a time frame up to the end of 2021.

The main foreign 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 Group's net risk position:

in thousand euros	31/12/2018	31/12/2017
Financial assets	52,106	20,071
Financial liabilities	2,820	2,005
Translation risk	**49,287**	**18,066**
Planned cash flows	135,023	68,594
Cash flows hedged by derivatives	111,199	82,117
Transaction risk	**23,823**	**−13,523**
Net risk item	**73,110**	**4,543**

The increase in financial assets held in US dollars compared to the prior year is mainly attributable to the cash available from the acquisition of Prodomax Automation Ltd., the increased cash and cash equivalents in US dollars at JENOPTIK AG, as well as to an increase in group-wide trade receivables in US dollars. In addition to international growth, the significant increase in the planned cash flows in US dollars compared to the prior year is attributable to currency-differentiated planning being applied for the first time.

As of the balance sheet date there was a US dollar-based net risk item in the sum of 73,110 thousand euros (prior year: 4,543 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 exchange rate 31/12/2018	1.1450 (1.1993)	
Increase by 5 percent	1.2023 (1.2593)	3,481 (216)
Decrease by 5 percent	1.0878 (1.1393)	−3,848 (−239)
Increase by 10 percent	1.2595 (1.3192)	6,646 (413)
Decrease by 10 percent	1,0305 (1.0794)	−8,123 (−505)

The figures in brackets relate to the prior year.

8.3 Contingent liabilities and contingent payables

As at December 31, 2018 there were no longer any guarantees in place (prior year: 4,750 thousand euros). The guarantee obligations in the prior year resulted from a warranty bond for a unconsolidated associated entity in connection with a construction project. Insofar as a claim under the bond was anticipated, corresponding provisions had been set aside.

8.4 Other financial obligations

The financial obligations resulting from rental contracts or lease agreements are shown from page 170.

In addition to the order commitments for intangible assets and property, plant and equipment in the sum of 10,475 thousand euros (prior year: 8,510 thousand euros) there were other financial liabilities in the sum of 108,605 thousand euros (prior year: 102,149 thousand euros), in particular for order commitments for inventories in the sum of 83,454 thousand euros (prior year: 65,996 thousand euros). In addition, the other financial obligations resulted from a service contract for building management services which has been in force for all German Jenoptik sites since April 2018 and has a contract term of four years.

Loan commitments to unconsolidated associated entities in the sum of 154 thousand euros (prior year: 1,147 thousand euros) were not used.

8.5 Legal disputes

JENOPTIK AG and its Group entities are involved in court or arbitration proceedings. Provisions for litigation risks, respectively litigation expenses, were set aside in the appropriate amounts in order to meet any possible financial burdens resulting from any court decisions or arbitration proceedings (see section 5.20 from page 183).

8.6 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 in total 11 percent of the voting rights and thus does not have control over JENOPTIK AG.

Members of the Executive Board and of the Supervisory Board of JENOPTIK AG also qualify as related parties. In the 2018 fiscal 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) is shown in the following table.

in thousand euros	2018	2017
Short-term benefits	2,836	3,126
Post-employment benefits	360	397
Share-based payments	677	1,042
Total	**3,873**	**4,565**

Detailed information on the disclosure of the remuneration of the members of the Executive Board and the Supervisory Board as required by IAS 24.9 has been published in the Remuneration Report as part of the Combined Management Report in the section Corporate Governance on pages 45 ff. as well as

in the section Required and Supplementary Disclosures under HGB in the Notes to the Consolidated Financial Statements on pages 201 and 204.

The following table shows the composition of the business relationships with non-consolidated entities and with the joint operation considered to be other related parties.

		Thereof with	
in thousand euros	Total	Unconsolidated entities	Joint operation
Revenue	2,441 (3,500)	1,858 (3,121)	583 (379)
Purchased services	1,355 (1,474)	812 (1,064)	543 (410)
Receivables from operations	453 (179)	432 (175)	21 (4)
Liabilities from operations	2,155 (2,988)	30 (107)	2,125 (2,881)
Loans	10 (730)	10 (730)	0 (0)

The figures in brackets relate to the prior year.

There were no group guarantees to related entities as of December 31, 2018 (prior year: 4,750 thousand euros).

9 Events after the balance sheet date

On March 7, 2019, the JENOPTIK AG Executive Board approved the submission of these Consolidated Financial Statements to the Supervisory Board. The Supervisory Board is responsible for reviewing and approving the Consolidated Financial Statements at its March 20, 2019 meeting.

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 2018 fiscal year, JENOPTIK AG's accumulated profit totaled 118,963,445.04 euros, comprising net profit for the 2018 fiscal year in the sum of 78,963,445.04 euros plus retained profits of 40,000,000.00 euros.

Based on the good annual result for the fiscal year 2018 just past, the Executive Board recommends to the Supervisory Board that for the fiscal year 2018 an increase in the dividend of 17 percent to 0.35 euros per qualifying no-par value share be proposed to the 2019 Annual General Meeting (prior year: 0.30 euros). This means that an amount of 20,033,340.25 euros from JENOPTIK AG's accumulated profit in the 2018 fiscal year will be distributed. From the remaining accumulated profit of JENOPTIK AG an amount of 68,930,104.79 euros is to be allocated to other revenue reserves and an amount of 30,000,000.00 euros will be carried forward to the new account.

No further events of significance occurred after December 31, 2018.

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 to be 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 Diode Lab GmbH, Berlin
- JENOPTIK Industrial Metrology Germany GmbH, Villingen-Schwenningen
- JENOPTIK Laser GmbH, Jena
- JENOPTIK Optical Systems GmbH, Jena
- JENOPTIK Power Systems GmbH, Altenstadt
- JENOPTIK Polymer Systems GmbH, Triptis
- JENOPTIK Robot GmbH, Monheim am Rhein
- JENOPTIK SSC GmbH, Jena
- SAALEAUE Immobilien Verwaltungsgesellschaft mbH & Co. Vermietungs KG, in liquidation, Pullach im Isartal

10.2 Number of employees

The breakdown of the average number of employees is presented in the following table:

	2018	2017
Employees	3,714	3,500
Trainees	103	108
Total	**3,817**	**3,608**

Of whom in the fiscal year 2018, an average of 33 (prior year: 35) employees were employed in the proportionately consolidated entity.

10.3 Cost of materials and personnel expenses

in thousand euros	2018	2017
Cost of materials		
Expenditures for raw materials, consumables and merchandise	276,360	234,158
Expenditures for services purchased	79,729	75,185
Total	**356,089**	**309,343**
Personnel expenses		
Wages and salaries	244,879	228,722
Social security, pension contributions and retirement benefits	33,468	29,554
Total	**278,347**	**258,275**

10.4 Financial statement auditor fees

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

in thousand euros	2018	2017
Financial statement audit services	911	958
Fees for other services	27	37
Other attestation services	23	23
Tax consulting services	5	7
Total	**965**	**1,025**

The fees for financial statement audit services relate to expenses for the audit of the Consolidated Financial Statements of the Jenoptik Group as well as the statutory annual financial statements of the subsidiaries and joint operations included in the Consolidated Financial Statements. Additional services rendered in connection with enforcement proceedings were included in the prior year.

The other services rendered by the auditor relate in particular to permissible consulting services in matters relating to accounting in accordance with IFRS 16. Other attestation services were rendered as part of the attestation of key financial figures, attestations under the Renewable Energies Act as well as under the European Market Infrastructure Regulation (EMIR) and a verification of an increase in capital for a Swiss subsidiary.

Of the total expenses, financial statement audit services in the sum of 725 thousand euros (prior year: 821 thousand euros), other services in the sum of 27 thousand euros (prior year: 37 thousand euros) and other attestation services in the sum of 20 thousand euros (prior year: 23 thousand euros) were 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 2018, 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 February 7, 2017. The declaration is reproduced in the Corporate Governance Report from page 36 and has been made permanently available 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).

134 Consolidated Statement of Comprehensive Income
136 Consolidated Statement of Financial Position
137 Consolidated Statement of Cash Flows
138 Statement of Changes in Equity
140 Notes

11.2 Executive Board

The following persons were appointed as members of the Executive Board in the 2018 fiscal year:

	weitere Mandate bei:
Dr. Stefan Traeger President & CEO of JENOPTIK AG	JENOPTIK North America, Inc., US (GI; chairman, CCB) JENOPTIK (Shanghai) Precision Instrument and Equipment Co., Ltd; China (GI; chairman, CCB, since April 2018) JENOPTIK (Shanghai) International Trading Co., Ltd., China (GI, member CCB, since December 25, 2018) Prodomax Automation Ltd., Canada (GI, member CCB, since June 2018) JENOPTIK Korea Corp., Ltd., Korea (GI, member CCB, since July 2018) JENOPTIK JAPAN Co. Ltd., Japan (GI, member CCB, since March 2018) TELSTAR-HOMMEL Co., Ltd., Korea (GI, member CCB, since July 2018)
Hans-Dieter Schumacher Member of the Executive Board of JENOPTIK AG	Prodomax Automation Ltd., Canada (GI, member, CCB, since June 2018) JENOPTIK (Shanghai) Precision Instrument and Equipment Co., Ltd; China (GI, member CCB, since April 2018) JENOPTIK (Shanghai) International Trading Co., Ltd., China (GI, member CCB, since December 25, 2018)

Abbreviations: CCB Comparable controlling body, GI – Group internal appointment

The following overview shows the remuneration of the Executive Board for the 2018 fiscal year. In addition to direct or indirect remuneration components earned, this overview includes the fair value of the share-based remuneration instruments (performance shares). A detailed description of the remuneration system can be found in the Remuneration Report on pages 45 of the Combined Management Report in the chapter Corporate Governance.

Fringe benefits consist of contributions to the accident insurance as well as the provision of company cars.

Retirement benefits were paid to former Executive Board members in the sum of 181 thousand euros (prior year: 181 thousand euros). As at the balance sheet date, the pension provisions for former Executive Board members totaled 3,142 thousand euros (prior year: 3,423 thousand euros). The expenses recorded for these existing provisions in the 2018 fiscal year comprised interest costs in the sum of 52 thousand euros (prior year: 51 thousand euros).

In 2018 bridging payments in the sum of 810 thousand euros were paid to the former President and CEO Dr. Michael Mertin.

In the 2018 fiscal year – 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.

	Dr. Stefan Traeger (President & CEO since May 1, 2017)		Hans-Dieter Schumacher (Member of Executive Board)	
in thousand euros	2018	2017	2018	2017
Fixed remuneration	600.0	400.0	437.5	400.0
Variable remuneration	521.7	200.0	347.8	235.3
LTI/performance shares of fiscal year – measured at fair value	324.3	266.7	243.2	235.3
Granted for protection of existing shares	n. a.	n. a.	14.7	9.9
Retirement benefits	200.0	116.7	160.0	160.0
Fringe benefits	15.0	9.8	18.3	13.8
Total remuneration	**1,660.9**	**993.1**	**1,221.5**	**1,054.4**

11.3 Supervisory Board

The following persons were appointed members of the Supervisory Board in the 2018 fiscal year:

	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 since March 22, 2018) • Nominations Committee (Chairman) • Mediation Committee (Chairman)	• Mittelständische Beteiligungsgesellschaft Thüringen mbH (SB member) • bm-t beteiligungsmanagement thüringen GmbH (GI, SB chair) • ThüringenForst – Anstalt öffentlichen Rechts – (SB member)
Michael Ebenau[1)] (Vice Chairman) Secretary of the IG Metall Union, District Management Mitte Appointed in 2007	• Personnel Committee • Investment Committee (since March 22, 2018) • Mediation Committee	• Samag Saalfelder Werkzeugmaschinen GmbH (CCB)
Astrid Biesterfeldt[1)] Vice President Business Unit Energy & Drive bei der JENOPTIK Advanced Systems GmbH Appointed in 2014	• Audit Committee	None
Evert Dudok Executive Vice President CIS Airbus Defence & Space Appointed in 2015		• Dornier Consulting International GmbH (GI, SB Chairman up to January 2018) • EURASSPACE Gesellschaft für Raumfahrttechnik mbH (GI, SB Member)
Elke Eckstein Executive Advisor & Board Consultant Appointed in 2017	• Investment Committee (since March 22, 2018)	• Karl Mayer Textilmaschinenfabrik GmbH (CCB) • Enics AG, Switzerland (CCB) • Saferoad SRH Holding AS, Norway (CCB, since October 2018) • Weidmüller S.A., Spain (CCB, GI, until August 31, 2018) • Weidmüller & IZ, proizvodnja prenapetostnih zascit, d.o.o., Slovenia (CCB, GI, until August 31, 2018) • Weidmüller Interface (Shanghai) Co., Ltd., China (CCB, GI, until August 31, 2018) • Weidmüller Interface (Suzhou) Co., Ltd., China (CCB, GI, until August 31, 2018) • Weidmüller Interconnections, LLC., USA (CCB, GI, until August 31, 2018)
Thomas Klippstein[1)] Chairman of the Works Council of Jenoptik Appointed in 1996	• Personnel Committee • Audit Committee	None

	Member of	Other mandates with
Dörthe Knips[1] Production Control employee at JENOPTIK Laser GmbH Appointed in 2017	• Investment Committee (since March 22, 2018)	None
Dieter Kröhn[1] Production planner at JENOPTIK Advanced Systems GmbH Appointed in October 1999 to June 2007, reappointed since December 2010	• Investment Committee (since March 22, 2018) • Mediation Committee	None
Doreen Nowotne Independent corporate management consultant Appointed in 2015	• Audit Committee (Vice Chairman) • Investment Committee (since March 22, 2018)	• Brenntag AG (SB member) • Lufthansa Technik AG (SB member) • Franz Haniel & Cie. GmbH (SB member since April 28, 2018)
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 (CCB member)
Stefan Schaumburg[1] Head of the Functional Department and Secretary of the Management Board of the IG Metall Union, Frankfurt Appointed in 2012	• Personnel Committee	• GKN Holdings Deutschland GmbH (SB Vice Chairman; CCB)
Prof. Dr. rer. nat. habil., Master in Physics Andreas Tünnermann 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	• Personnel Committee • Mediation Committee • Nominations Committee	• Docter Optics SE (CCB member)

[1] Employee representative
Abbreviations: SB – Supervisory Board, CCB – Comparable controlling body, GI – Group internal appointment, Dep. – Deputy

Supervisory Board remuneration

For the 2018 fiscal year the members of the Supervisory Board received the following remuneration in total:

in thousand euros	Total earnings	of which		Sales tax [1]
		Fixed annual remuneration 2018	Meeting allowances (plus reimbursement of expenses)	
Matthias Wierlacher (Chairman)	126.9	116.4	10.5	20.3
Michael Ebenau (Vice Chairman)	91.5	82.0	9.5	14.6
Astrid Biesterfeldt	71.6	59.5	12.1	11.4
Evert Dudok	54.4	47.6	6.8	8.7
Elke Eckstein	60.8	52.2	8.5	9.7
Thomas Klippstein	79.7	65.4	14.3	12.7
Dörthe Knips	60.6	52.2	8.3	9.7
Dieter Kröhn	60.6	52.2	8.3	9.7
Doreen Nowotne	84.8	70.1	14.7	13.5
Heinrich Reimitz	82.1	65.0	17.1	–
Stefan Schaumburg	60.6	53.6	7.0	9.7
Prof. Dr. rer. nat. habil. Andreas Tünnermann	61.7	53.6	8.1	9.8
Total	**895.4**	**769.9**	**125.5**	**129.9**

[1] Included in total remuneration, fixed remuneration and meeting allowances; Mr. Mag. Heinrich Reimitz has a limited tax liability in Germany due to his place of residence being abroad; since his remuneration is subject to a withholding tax in accordance with § 50 a (1) No. 4 of the German Income Tax Act, no sales tax was incurred.

For a more detailed explanation of the Supervisory Board remuneration system we refer to the chapter on Corporate Governance in the Remuneration Report which forms part of the Combined Management Report.

12 List of Shareholdings in the Jenoptik Group as at December 31, 2018 in accordance with § 313 Para 2 HGB

No.	Name and registered office of the entity	Share of Jenoptik or the direct shareholder in %	Equity 31/12/2018 in thousand euros	Result for 2018 in thousand euros
	1.1. Consolidated associates – 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, Wedel, Germany	100		
5	JENOPTIK Optical Systems GmbH, Jena, Germany	100		
6	JENOPTIK Laser GmbH, Jena, Germany	100		
7	JENOPTIK Polymer Systems GmbH, Triptis, Germany	100		
8	SAALEAUE Immobilien Verwaltungsgesellschaft mbH & Co. Vermietungs KG, Jena, Germany, i.L. [5)]	100		
9	JENOPTIK SSC GmbH, Jena, Germany	100		
10	JENOPTIK North America, Inc., Jupiter (FL), USA	100		
11	JENOPTIK Asia-Pacific Pte. Ltd., Singapore, Singapore	100		
	– indirect shareholdings			
12	JENOPTIK Traffic Solutions Switzerland AG, Uster, Switzerland	100		
13	RADARLUX Radar Systems GmbH, Leverkusen, Germany	100		
14	JENOPTIK ROBOT MALAYSIA SDN BHD, Kuala Lumpur, Malaysia	100		
15	ROBOT Nederland B.V., Riel, Netherlands	100		
16	JENOPTIK Holdings UK Ltd., Milton Keynes, Great Britain	100		
17	Vysionics ITS Holdings Ltd., Milton Keynes, Great Britain	100		
18	JENOPTIK Traffic Solutions UK Ltd., Camberley, Great Britain	100		
19	Computer Recognition Systems Ltd., Milton Keynes, Great Britain	100		
20	Domestic and Commercial Security Ltd., Saltesh, Great Britain	100		
21	JENOPTIK Industrial Metrology Switzerland SA, Peseux, Switzerland	100		
22	JENOPTIK Industrial Metrology France SAS, Bayeux Cedex, France	100		
23	OTTO Vision Technology GmbH, Jena, Germany	100		
24	OVITEC GmbH, Jena, Germany	100		
25	JENOPTIK Power Systems GmbH, Altenstadt, Germany	100		
26	PHOTONIC SENSE GmbH, Eisenach, Germany	100		
27	Asam Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs KG, Mainz, Germany	94		
28	JENOPTIK Diode Lab GmbH, Berlin, Germany	100		
29	Traffipax, LLC, Jupiter (FL), USA	100		
30	JENOPTIK Automotive North America, LLC, Rochester Hills (MI), USA	100		
31	JENOPTIK INDUSTRIAL METROLOGY DE MEXICO, S. DE R.L. DE C.V., Saltillo, Mexico	100		
32	Five Lakes Automation, LLC, Novi (MI), USA	100		
33	JENOPTIK Optical Systems, LLC, Jupiter (FL), USA	100		
34	JENOPTIK Advanced Systems, LLC, El Paso (TX), USA	100		
35	Prodomax Automation Ltd., Barrie, Canada	100		
36	JENOPTIK (Shanghai) Precision Instrument and Equipment Co., Ltd., Shanghai, China	100		

No.	Name and registered office of the entity	Share of Jenoptik or the direct shareholder in %	Equity 31/12/2018 in thousand euros	Result for 2018 in thousand euros
37	JENOPTIK Australia Pty Ltd, Sydney, Australia	100		
38	JENOPTIK Korea Corporation, Ltd., Pyeongtaek, Korea	66.6		
39	JENOPTIK JAPAN CO. Ltd., Yokohama, Japan	66.58		
40	JENOPTIK India Private Limited, Bangalore, India	100		
	1.2 Unconsolidated associates – direct investments			
41	JENOPTIK Einundsiebzigste Verwaltungsgesellschaft mbH, Jena, Deutschland, i.l. [5]	100	23	[3]
42	JENOPTIK MedProjekt GmbH i.l., Jena, Germany, i.l. [5]	100	−4,024 [1]	16 [1]
43	FIRMICUS Verwaltungsgesellschaft mbH, Jena, Germany	100	50 [1]	3 [1]
44	SAALEAUE Immobilien Verwaltungsgesellschaft mbH, Jena, Germany, i.l. [5]	100	30 [1]	1 [1]
45	LEUTRA SAALE Gewerbegrundstücksverwaltungsgesellschaft mbH, Grünwald, Germany, i.l. [5]	100	25 [1]	−1 [1]
	– indirect shareholdings			
46	AD-Beteiligungs GmbH, Monheim am Rhein, Germany	100	224 [1]	−2 [1]
47	Traffipax do Brasil Ltda., Sao Paulo, Brazil	100	−1,008 [1]	−132 [1]
48	PHOTONIC SENSE, INC., Nashua (NH), USA	100	1	1
49	JENOPTIK do Brasil Instrumentos de Precisão e Equipamentos Ltda., Sao Paulo, Brazil	100	144 [1]	−148 [1]
50	JENOPTIK Saudi Arabia, LLC, Jeddah, Saudi-Arabia, i.l. [5]	90	50 [1]	−43 [1]
51	JENOPTIK (Shanghai) International Trading Co., Ltd., Shanghai, China	100	[2]	[2]
	2. Joint operations			
52	HILLOS GmbH, Jena, Germany	50		
	3. Associated entities valued at equity			
53	TELSTAR-HOMMEL CORPORATION, Ltd., Pyeongtaek, Korea	33.4	15,575	1,611
	4. Investments – direct shareholdings			
54	JENAER BILDUNGSZENTRUM gGmbH SCHOTT CARL ZEISS JENOPTIK, Jena, Germany	33.33	701 [1]	0 [1]
	– indirect shareholdings			
55	JT Optical Engine Verwaltungs GmbH, Jena, Germany, i.l. [5]	50 [4]	24	0
56	JT Optical Engine GmbH + Co. KG, Jena, Germany, i.l. [5]	50 [4]	509	−1
57	JENOPTIK Robot Algérie SARL, Algier, Algeria	49	96 [1]	−12 [1]
58	HOMMEL CS s.r.o., Teplice, Czech Republic	40	908	118
59	Zenteris GmbH, Jena, Germany, i.I. [6]	24.9 [4]	[2]	[2]

1) Details for 2017 financial statements
2) Details not available
3) Profit transfer agreement (HGB) with the parent company
4) Deviating fiscal year as of June 30
5) i.L. = in liquidation
6) i.I. = in insolvency

Jena, March 7, 2019
JENOPTIK AG

The Executive Board