04 Notes

1. Presentation of the Situation at the Group

Parent company

The parent company is First Sensor AG, domiciled in Berlin, Peter-Behrens-Str. 15, 12459 Berlin, and entered in the commercial register of Berlin in Department B under HRB 69326. First Sensor AG is listed in the regulated market on the Frankfurt Stock Exchange in the Prime Standard segment under ISIN DE0007201907.

First Sensor AG and its subsidiaries, referred to hereinafter as "First Sensor", operate in the sensor production and microsystems technology industries. The company's business focuses mainly on the development, manufacture and distribution of customer-specific optical and non-optical semiconductor sensors and sensor systems. First Sensor also develops and manufactures highly reliable customized hybrid circuits and products for microsystem engineering and advanced packaging.

These Consolidated Financial Statements were authorized for issue by the Supervisory Board on March 21, 2019.

Reporting principles

First Sensor's consolidated financial statements for 2018 have been prepared in accordance with the applicable International Financial Reporting Standards (IFRS) as at the balance sheet date and the interpretations of the International Financial Reporting Interpretations Committee (IFRIC) that must be applied in the European Union.

The consolidated financial statements were prepared in euro (€). Unless otherwise indicated, all amounts have been stated in thousands of euro (€ thousand). The fiscal year of First Sensor AG and its consolidated subsidiaries corresponds to the calendar year.

The statement of comprehensive income has been prepared using the nature of expense method.

To improve clarity, individual items have been summarized in the balance sheet and the statement of comprehensive income. The notes show a breakdown of these items. Rounding differences may arise.

The accounting policies are basically identical to those used in the previous year. As in the previous year, the balance sheet structure was organized according to descending maturity.

In fiscal year 2018, new standards, amendments to existing standards and new interpretations were approved.

Published standards and interpretations for which application was mandatory for the first time for IFRS financial statements as at December 31, 2018:

Amendments to standards:
- Amendments to IFRS 4 "Insurance Contracts": Consequences of first-time adoption dates for IFRS 9 and IFRS 17 (entry into force on January 1, 2018)
- Amendments to IFRS 2 "Share-based Payment": Various clarifications (entry into force on January 1, 2018)
- Amendments to IAS 40 "Investment Property": Changes in use (entry into force on January 1, 2018)
- Various amendments: IASB 2014 - 2016 Annual Improvement Project (entry into force on January 1, 2018)

New standards:
- FRS 9 "Financial Instruments" (entry into force on January 1, 2018)
- IFRS 15 "Revenue from Contracts with Customers" (entry into force on January 1, 2018)

New interpretations:
- FRIC 22 "Foreign Currency Transactions and Advance Consideration" (entry into force on January 1, 2018)

Published standards and interpretations for which application was not mandatory for IFRS financial statements as at December 31, 2018:

Amendments to standards:
- Amendments to IFRS 19 Plan Amendment, Curtailment or Settlement (entry into force on January 1, 2019) *
- Amendments to IAS 28 "Investments in Associates and Joint Ventures": Long-term Interests (entry into force on January 1, 2019) *
- Amendments to IFRS 9 "Financial Instruments": Prepayment

Features with Negative Compensation (entry into force on January 1, 2019) *
- Various amendments: IASB 2015 - 2017 Annual Improvement Project (entry into force on January 1, 2019) *
- Amendments to IFRS 3 Definition of a Business (entry into force on January 1, 2020) *
- Amendments to IFRS 1 Definition of Material (entry into force on January 1, 2020) *
- Amendments to References to the Conceptual Framework in IFRS Standards (entry into force on January 1, 2020) *

New standards:
- IFRS 16 "Leases" (entry into force on January 1, 2019)
- IFRS 17 "Insurance Contracts" (entry into force on January 1, 2021) *

New interpretations:
- IFRIC 23 "Uncertainty over Income Tax Treatments" (entry into force on January 1, 2019)

* EU endorsement not yet given.

At the present time, the company has taken into account the mandatory application of the new standards and interpretations within the EU and will continue to do so. The new provisions of IFRS 9 and IFRS 15 have no significant effects on the balance sheet and the statement of comprehensive income. The new regulations of IFRS 16 will ceteris paribus result in intangible assets and financial liabilities increasing and the equity ratio falling. In the statement of comprehensive income, other operating expenses will be lower while amortization of intangible assets and interest expenses will rise. Exact quantification of the effect is currently not possible. It is anticipated that intangible assets and financial liabilities will move up by approximately €10 million, while other operating expenses will decline by roughly €2 million. The reduction of other operating expenses is compensated largely by higher amortization of intangible assets and also by increased interest expenses. It is assumed that the financial ratios agreed in the context of loan agreements can be complied with. Some amendments and additional disclosures were required in the Notes.

Important discretionary decisions and uncertainty of estimates

In preparing the consolidated financial statements, some assumptions and estimates have been made which affected the amount and the disclosure of reported assets and liabilities, earnings and expenses. In individual cases, the actual values may deviate from these assumptions or estimates at a later stage. Relevant changes will be made once more accurate information is available. All assumptions and estimates are made to the best of our knowledge and belief in order to provide a true and fair view of the Group's net assets, financial position and results of operations.

Impairment of goodwill and non-current assets

First Sensor annually tests goodwill and other non-current assets for impairment in accordance with IAS 36. The impairment test is performed on the basis of a comparison between the carrying amount of an asset and the recoverable amount that can be generated from the asset or group of assets or the cash generating unit. The recoverable amount is the higher of the fair value less the costs to sell and the value in use.

The recoverable amount is calculated by means of a discounted cash flow analysis. The recoverable amount is calculated based on the income planning for the cash generating unit in question. The WACC was also applied as a discount factor, which reflects the weighted average cost of capital for a corresponding peer group; the cash flow was estimated in a detailed planning phase up to 2021 and then in a terminal value. The income planning is essentially based on previous experience of management expectations regarding the development of the respective cash generating unit and the relevant market. The main non-current assets to be subjected to annual impairment testing are the First Sensor Group's reported goodwill as well as intangible assets resulting from business combinations.

Share based remuneration

First Sensor has granted selected employees and board members share based remuneration. The measurement of the personnel expenses for this share based remuneration contains estimates regarding the extent to which the conditions of these options are met as well as of relevant market parameters.

2. Principles of Consolidation

Basis of consolidation

The Group's consolidated financial statements comprise First Sensor AG and the companies under its control. First Sensor AG is deemed to control those companies where it directly or indirectly holds over 50% of the voting rights of the company's subscribed capital and/or is in a position to control the financial and business policy of a company such that it profits from the company's activities.

Non-controlling interests held by third parties (minorities) are reported separately in the statement of comprehensive income and in equity in the consolidated balance sheet. Recognition under equity is presented separately from the parent shareholders' equity. When non-controlling interests are acquired, the carrying amounts for the parent shareholders and the non-controlling interests are adjusted accordingly. Any difference between the adjustment of the non-controlling interest and the received or paid contingent consideration is recognized directly in equity and allocated to the parent company equity holders.

Losses by a subsidiary are also assigned to minority interests even when this leads to a negative balance if there is a matching right to reimbursement vis-à-vis the minority interests.

The following companies were included in the consolidated financial statements as fully consolidated:

Company	Site	Core business activity	Ownership interest
First Sensor Lewicki GmbH	Oberdischingen, Deutschland	Development, microelectronic assembly and sale of components and modules; power electronics	100%
First Sensor Microelectronic Packaging GmbH	Dresden, Deutschland	Development, microelectronic assembly and sale of components and modules and sensors	100%
First Sensor Mobility GmbH	Dresden, Deutschland	Development, production and sale of microelectronic and mechanical components, modules, sensors and sensor systems	85%
First Sensor France S.A.S.	Paris, France	Sale of standard sensors and sensor solutions of the whole First Sensor Group	100%
First Sensor Inc.	Westlake Village, USA	Production of sensor modules and sensors, sale of standard sensors and sensor solutions of the whole First Sensor Group	100%
First Sensor Singapore (FSG) Pte. Ltd.	Singapore	Not operationally active	100%
Klay Instruments B.V.	Dwingeloo, Netherlands	Development, production and sale of pressure transmitters	100%
First Sensor Technics Ltd.	Shepshed, County Leicestershire, England	Sale of standard sensors and sensor solutions of the whole First Sensor Group	100%
First Sensor Corp.	Montreal, Canada	Development and production of flow sensors	100%
First Sensor Scandinavia AB	Kungens Kurva, Sweden	Sale of standard sensors and sensor solutions of the whole First Sensor Group	51%

Consolidation methods

The financial statements for the subsidiaries and affiliated companies included in the consolidated financial statements are based on uniform accounting standards and reporting periods and dates which match those of the parent company.

Internal Group balances and transactions and resulting internal Group profits and dividends between consolidated companies were eliminated in full.

Business combinations are reported according to the purchase method. The costs of a company acquisition are calculated as the total of the consideration transferred, assessed at its fair value at the acquisition date, and the non-controlling shares in the acquired company. In any business combination, the non-controlling shares in the acquired company are measured either at fair value or as the relevant proportion of identifiable net assets.

Costs incurred as a result of the business combination are recognized as expenditure. If the Group acquires a company, it assesses the appropriate classification and designation of the financial assets and liabilities assumed in accordance with the contract terms, economic conditions and the prevailing conditions at the time of the acquisition.

The agreed contingent consideration is recognized at fair value at the time of the acquisition. Subsequent changes to the fair value of a contingent consideration representing a financial asset or a financial liability are recognized in the income statement in accordance with IFRS 9. A contingent consideration classified as equity is not remeasured and its subsequent payment is accounted for as equity capital.

Upon initial recognition, goodwill is valued at cost, calculated as the surplus of the transferred consideration over the acquired identifiable assets and liabilities assumed by the Group. If this consideration is lower than the fair value of the acquired subsidiary's net worth, the difference is recognized in the statement of comprehensive income.

Following initial recognition, goodwill is valued at cost minus accumulated impairment losses. For the purposes of impairment testing, the goodwill gained from a business combination is allocated, as at the acquisition date, to the Group's cash generating units that are expected to profit from the business combination. This applies irrespective of whether other assets or liabilities of the acquired company are assigned to these cash generating units.

If goodwill has been assigned to a cash generating unit and a division of this unit is sold, the goodwill of the disposed unit is included in the calculation of the result of the sale as part of the carrying amount of the relevant division. The value of the portion of goodwill sold is determined on the basis of the relative values of the business division sold and the remaining portion of the cash generating unit.

Currency translation

The reporting currency of the First Sensor Group is euro, which is also the functional currency of the parent company. Financial statements of consolidated companies prepared in foreign currency are converted on the basis of the functional currency concept in accordance with IAS 21 "The Effects of Changes in Foreign Exchange Rates" using the modified reporting date method. As subsidiaries run their business independently from a financial, economic and organizational viewpoint, the functional currency is identical to the local currency of the company concerned.

Upon initial recognition, foreign currency transactions are translated from the foreign currency into the functional currency at the spot rate applicable on the date of the respective business transaction. Any exchange differences resulting from the settlement of monetary items or the translation of monetary items at exchange rates other than those in force at the time of initial recognition are recognized in the income statement as an expense or income.

Non-monetary items measured in a foreign currency at historical cost are translated using the exchange rate valid at the date of the transaction. Non-monetary items measured in a foreign currency at fair value are translated using the exchange rate valid at the time of the measurement of fair value.

Foreign subsidiaries

All foreign First Sensor subsidiaries included in consolidation are considered financially independent foreign units since they are financially, economically, and organizationally autonomous. Their functional currencies correspond to their local currency. The balance sheets of foreign subsidiaries are translated at the exchange rate valid on the reporting date using the rates shown below:

Exchange rates	Dec. 31, 2017	Dec. 31, 2018
US Dollar USD	1.1993	1.1450
British Pound GBP	0.8872	0.8945
Swedish Krona SEK	9.8438	10.2548
Singapore Dollar SGD	1.6024	1.5591
Canadian Dollar CAD	1.5039	1.5605

The income statements are converted at the average monthly exchange rate.

Currency translation is recognized directly in equity, i.e. all exchange differences that arise are recognized as a separate component of equity under exchange equalization items.

Cash and cash equivalents

Cash and cash equivalents include cash, term deposits with remaining terms of up to three months and sight deposits. The cash equivalents shown in the cash flow statement are defined in accordance with the company's cash management and are identical to cash.

Funds with limited availability and remaining terms of over three months are recognized under other assets.

Financial assets

Financial assets are generally broken down into the following categories:

– receivables and loans granted,
– derivatives which meet the requirements of hedge accounting,
– securities in fixed assets.

A financial asset is initially recognized at the acquisition cost, which corresponds to the fair value of the consideration; transaction costs are included. Financial assets from usual sales and purchases are recognized as at the day of trading.

Loans and receivables are non-derivative financial assets with fixed or determinable payments which are not quoted in an active market. After initial recognition, loans and receivables are measured at amortized cost applying the effective interest method minus any impairment costs. Amortized costs are calculated taking into consideration any discounts or premiums at acquisition and include all fees which are an integral part of the effective interest rate and the transaction costs.

Gains and losses are recorded in the net profit for the period if loans and receivables are derecognized or impaired as well as those resulting from amortization.

Financial assets are reviewed for impairment at the balance sheet date. When it is improbable, in the case of financial assets carried at amortized cost that the company will be able to collect all loans and receivables due under the terms of the contract, an impairment or value adjustment of the receivables is recognized in the income statement. A value adjustment previously expensed will be corrected in the income statement if the subsequent partial recovery (or reduced impairment) can be objectively measured.

However, an increase in value will be recognized only insofar as it does not exceed the amount of amortized cost.

Derecognition/impairment

Financial assets or a part of financial assets are derecognized if First Sensor loses control over the contractual rights from which the asset arises.

Recognition of derivatives which meet the requirements of hedge accounting is explained in the notes under “Derivative financial instruments”.

First Sensor assesses at the balance sheet date whether a financial asset is impaired. If there is objective evidence of impairment on loans and receivables recognized at amortized cost, the amount of the loss is determined as the difference between the carrying amount of the asset and the cash value of expected future cash flows (excluding future credit losses that have not been incurred), discounted at the financial asset's original effective interest rate (i.e. the interest rate originally recognized).

The carrying amount of the asset is then either reduced directly or an allowance account is used. The amount of the loss is recognized in the income statement. First Sensor first assesses whether there is objective evidence of impairment of financial assets that are significant. It then assesses whether there is objective evidence of impairment of financial assets that are not significant, individually or collectively. If the Group determines that in the case of a financial asset assessed individually, whether significant or not, there is no objective evidence of impairment, it includes this asset in a group of financial assets with a similar default risk profile and examines them collectively for impairment. Assets individually assessed for impairment and for which an impairment loss is or continues to be recognized are not included in a collective impairment assessment.

Offsetting

Financial assets and liabilities are offset so only the net amount is reported in the balance sheet. This only happens if there is a legal right to offset the recorded amounts with each other at the present time and if the intention is to effect compensation on a net basis or to redeem the liability associated with the asset in question at the same time it is realized.

Fair value

The fair value of financial instruments traded on active markets is determined by the market price quoted on the reporting date or the publicly quoted price (bid price for long positions and asking price for short positions) without any deduction for transaction costs.

The fair value of financial instruments not traded on any active market is determined using valuation measurement methods.

Valuation techniques include using recent arm's length market transactions between knowledgeable, willing parties, if available, reference to the current fair value of another instrument that is substantially the same, discounted cash flow methods and other valuation models.

Please refer to "Derivative financial instruments" in the notes for an analysis of the fair values of financial instruments and other details of how financial instruments are valued.

The company assumes that the fair values of financial assets and financial liabilities essentially correspond to their carrying amounts.

The net result for financial assets and liabilities amounted to €-184 thousand for the fiscal year (previous year: €-1,609 thousand). The negative net result in the previous year was essentially the result of closing out early three foreign exchange derivatives and one interest rate swap.

Inventories

Materials and other supplies held for use in the production of inventories are measured at cost and not written down below cost if the finished products in which they will be incorporated are expected to be sold at or above cost. Sale costs still to be incurred are also taken into account. However, when a decline in the price of materials indicates that the cost of the finished products exceeds net realizable value, the materials are written down to net realizable value.

Work in progress and finished goods are valued at cost or at the market value if lower. Manufacturing costs comprise direct personnel costs, costs of materials and the attributable portion of production overheads. They are determined using cost unit accounting. Interest on borrowing is not capitalized. Obsolete articles and those with low turnover are adjusted in value appropriately.

The values of any identified excess capacity are adjusted as part of marketability and inventory range analyses.

Property, plant, and equipment

Tangible assets are accounted for at cost less accumulated amortization.

Interest on borrowing, which can be assigned directly to the acquisition, construction or manufacture of a qualified asset, are capitalized. No interest on borrowing was capitalized in the last fiscal year. On disposals of tangible assets, their historical cost and accumulated amortization are derecognized and a gain or loss from the disposal of the asset is recognized in the income statement.

Scheduled amortization is recognized over the following useful lives in accordance with the straight line method:

Buildings	25 – 33 years
Office equipment	1 – 15 years

The useful lives and amortization method are reviewed regularly to ensure the economic benefit matches the period of amortization.

Plants under construction are capitalized at cost and amortized from completion and commissioning. Cost includes the production-related full costs. These include production costs and production overheads, which were caused in connection with the construction of plants through work performed by the Group's own employees.

Intangible assets

Intangible assets are capitalized by First Sensor if:
- as a result of past events, the company retains beneficial ownership of the asset,
- it is to be assumed that the company will continue to have beneficial ownership of this asset in the future,
- the asset costs can be reliably measured.

This is the method applied when intangible assets are acquired externally. Internally generated intangible assets are measured at the directly attributable development costs if all the requirements of IAS 38 are met. Overheads necessary to generate the asset and that can be directly attributed to it are also capitalized. Capitalization ceases once the product is completed and available for general use.

The following six requirements must be met for capitalizing development costs under IAS 38.57 and have been met in full in the present cases:
- Technical feasibility of completing the asset exists so that it will be available for internal use and/or sale.
- The intention is to complete the intangible asset, use or sell it.
- The ability exists to use or sell the intangible asset.
- There is evidence of the expected future economic benefit.
- Adequate technical, financial, and other resources are available to complete the development and to use or sell the intangible asset.
- The company is able to measure reliably the expenditure attributable to the intangible asset during its development.

Furthermore, acquired developments (manufacturing expertise) are recognized as intangible assets if they can be measured reliably and the company controls exploitation of the results of these development projects.

Intangible assets subject to wear and tear are recognized at cost minus accumulated depreciation and accumulated impairments. Intangible assets not subject to wear and tear (goodwill) are recognized at cost minus accumulated impairment losses. According to IAS 38, intangible assets subject to wear and tear are amortized uniformly over the estimated useful life. The amortization period starts as soon as the asset can be used. The amortization period and amortization schedule are reviewed annually at the end of the fiscal year.

(a) Software
Software is capitalized at cost and reported as an intangible asset provided this cost does not constitute an integral part of the associated hardware. Software is amortized over a period of three to five years using the straight-line method.

(b) Goodwill
On initial recognition, goodwill is measured at cost. The cost is calculated as the excess of the consideration received and the amount of the non-controlling interest over the acquired identifiable assets and liabilities assumed by the Group.

Irrespective of whether any indication of impairment exists, the recoverable amount for the cash generating unit (CGU) to which the goodwill applies is calculated annually. If the carrying amount exceeds the recoverable amount, a valuation allowance is recognized. If the recoverable amount is only 10% more than the carrying amount, the theoretical potential for valuation allowances is calculated in a sensitivity analysis. To do this, the underlying earnings before interest and tax (EBIT) are reduced by 10% and the risk-free basic interest rate is raised by 1 percentage point, and the effects on capitalized goodwill are calculated.

(c) Research and development costs
Expenditure on research and development activities is recognized in income in the period in which it is incurred unless the requirements of IAS 38 can be demonstrated in the case of development costs.

(d) Developments
First Sensor has acquired development work as part of one of its acquisitions. This is subject to scheduled amortization over 20 years. Amortization is taken when marketing the development starts.

(e) Brands
Identified assets were acquired in the form of brands as part of the acquisition of the Sensortechnics Group. The Klay brand is not subject to scheduled amortization because it has no defined useful life. The Sensortechnics and ELBAU brands were written off in full as at December 31, 2015, since both brand names are no longer used as a result of concentrating on the "First Sensor" umbrella brand.

(f) Customer base
Customer bases have been acquired as a result of the acquisition of the Sensortechnics Group and have been recognized as intangible assets. Customer bases are amortized on a straight-line basis over an expected useful life of 6 to 10 years.

(g) Impairment of non-current assets
Property, plant and equipment and intangible assets are tested for potential impairment if, owing to events or changes in external circumstances, there are indications that the recoverable value for the asset at the balance sheet date will remain less than its carrying amount, or if annual impairment tests are required (goodwill and intangible assets unused to date). If the carrying amount of an asset exceeds the lower fair value, impairment is recognized with respect to property, plant and equipment and intangible assets reported at cost. The recoverable amount is the higher of the fair value less the costs to sell and the value in use. The fair value less costs to sell is the amount that can be achieved by sale of the asset in a normal transaction between knowledgeable parties.

The value in use is the present value of estimated future cash flows expected to arise from continuing use of an asset and from its disposal at the end of its useful life. The recoverable amount of each individual asset must be estimated or, if this is not possible, for the smallest identifiable cash generating unit.

Provisions

In accordance with IAS 37, provisions are reported for obligations with respect to which the timing or amount are uncertain. Provisions should be recognized when, and only when:
- the company has a present obligation (legal or constructive) as a result of a past event;
- it is probable (i.e. more likely than not) that an outflow of resources embodying economic benefit will be required to settle the obligation and
- a reliable estimate can be made of the amount of the obligation

The amount recognized as a provision should be the best estimate of the expenditure required to settle the present obligation at the balance sheet date, in other words, the amount the company would rationally pay to settle the obligation at the balance sheet date or to transfer it to a third party.

Non-current provisions are discounted at a pre-tax interest rate provided that the effect of discounting is significant. If provisions are discounted, the increase in the provision with the passage of time is reported as financial expenditure.

Liabilities relating to a potential obligation resulting from a past event and whose existence will only be confirmed by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the enterprise are reported in the Notes as contingent liabilities. Contingent liabilities may also result from a current obligation related to past events but not recorded, because:

- it is not probable that an outflow of resources embodying economic benefits will be required to settle this obligation; or
- the amount of the obligation can be estimated sufficiently reliably.

Financial liabilities

Financial liabilities are categorized as follows:

- financial liabilities held for trading
- other financial liabilities.

The financial liabilities reported in the First Sensor consolidated financial statements were classified as other financial liabilities.

A financial liability is initially recognized at cost, which is the fair value of the consideration given; transaction costs are included. After initial recognition, interest bearing loans are measured at amortized cost using the effective interest method. Gains or losses resulting from amortization or derecognition are recognized in the income statement using the effective interest method.

Financial liabilities are no longer reported once they have been settled, i.e. once contractual obligations have been settled, cancelled or have expired.

Employee benefits

Defined contribution plans

Defined contribution plans exist for executive board members, directors and senior employees. These are pension commitments in an intercompany provident fund. The company pays fixed monthly amounts into the provident fund. The payments made by the Group into defined contribution plans are recognized in the income statement in the year to which they relate. The same applies to payments made into state pension schemes.

Share options

Share option plans allow selected employees, i.e. the Executive Board, directors and staff of First Sensor, to share in the company's future performance in the medium and long term.

The expenses resulting from the granting of equity instruments and the corresponding increase in equity are recognized over the period within which vesting or service conditions have to be met (vesting period). This period ends on the vesting date, in other words, on the date the employee in question becomes irrevocably entitled. The cumulative expenses reported at each balance sheet date arising from the granting of the equity instruments up to the vesting date reflect the portion of the vesting period that has already expired and the number of equity instruments, according to the Group's best estimate, that will vest at the end of the vesting period. The amount recognized in the income statement reflects the changes in the cumulative expenses at the beginning and end of the reporting period.

No expense is recognized for remuneration entitlements that do not vest. This does not include remuneration entitlements which can only vest subject to fulfillment of certain market conditions. These are deemed vested irrespective of whether the market conditions are fulfilled provided that all other service conditions are met.

The dilutive effect of the outstanding share options is reflected in the calculation of the earnings per share as additional dilution (see note 27 Earnings per share for further details).

Non-current post-employment benefit obligation

Pension payments were agreed for a former director who has taken retirement. Provisions were made for the present value of the pension commitment.

The annual pension payments are shown as utilization of provisions. This is calculated based on an actuarial assessment.

Government grants

Government grants are recognized if there is sufficient certainty that the grants will be provided and that the company satisfies the associated conditions.

Expenditure based grants are reported as income over the period required to match them against the expenditure they are intended to compensate. Grants related to assets are shown on the consolidated balance sheet as deferred investment grants or subsidies. The latter is released as income in equal annual installments over the expected useful life of the relevant asset.

Recognition of revenue

In line with the five-step approach of IFRS 15, revenue is recognized in accordance with IAS 15 when all the following conditions are met:

- First Sensor has transferred to the buyer the significant risks and opportunities associated with ownership of the sold goods and products.
- There is neither a continuing managerial involvement to the degree usually associated with economic ownership, nor

effective control over the sold items and entitlements.
- The amount of revenue can be measured reliably.
- It is probable that the economic benefits associated with the transaction will flow to the enterprise.
- The costs incurred or to be incurred in respect of the transaction can be reliably estimated.

In accordance with the principle of accrual basis accounting set down in IFRS 15, income and expense relating to the same transaction or event are recognized at the same time.

Other operating income

Other operating income is recognized if the economic benefit can be reliably estimated and is gained during the reporting period.

Interest income

Interest is recognized on a time proportion basis that takes into account the effective yield on the asset.

Taxes

Tax assets and liabilities
Current tax assets and current tax liabilities for current and prior periods should be measured at the amount expected to be recovered from (paid to) the taxation authorities. The amount is calculated on the basis of the tax rates and tax legislation effective at the balance sheet date.

Current taxes relating to items reported directly in equity are not entered on the income statement but in equity.

Deferred taxes
Deferred taxes are recognized using the balance sheet related liability method on all temporary differences between the carrying amount of an asset or liability in the balance sheet and the tax base at the balance sheet date. Deferred taxes are recognized for all taxable temporary differences. The following exceptions apply:
- The deferred tax liability must not be recognized when it arises from the initial recognition of goodwill or of an asset or liability in a transaction which is not a business combination and which, at the time of the transaction, affects neither the accounting profits defined under commercial law nor the taxable profit.
- Deferred tax arising from deductible temporary differences in connection with investments in subsidiaries and associated companies is not recognized if the timing of the reversal of the temporary difference is controlled and it is probable that the temporary differences will not be reversed in the foreseeable future.

Deferred tax assets are recognized for all deductible temporary differences, unused tax loss carryforwards and unused tax credits in the amount of the future taxable profit that is likely to be available against which the deductible temporary differences and the unused tax loss carryforwards and tax credits can be utilized.

The following exceptions apply:
- Deferred tax assets are not recognized for deductible temporary differences arising from the initial recognition of an asset or liability relating to a transaction which is not a business combination and which, at the time of the transaction, does not influence either the accounting profit for the period defined under commercial law or the taxable profit.
- Deferred tax assets for deductible temporary differences relating to interests in subsidiaries, affiliated companies or shares in joint ventures are only recognized to the extent that it is probable that the temporary differences will be reversed in the foreseeable future and that sufficient taxable profit will be available against which the temporary differences can be utilized.

The carrying amount of deferred tax assets is tested on the balance sheet date and written off to the extent that it is no longer probable that a sufficient taxable result will be available against which the deferred tax asset can be at least partly applied. Non-recognized deferred tax assets are tested on every balance sheet date and recognized to the extent that it has become probable that the taxable result in the future will allow the realization of deferred tax assets.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when an asset is realized or a liability is settled, based on tax rates (and tax legislation) that are applicable at the balance sheet date. Future changes to tax rates must be taken into account at the balance sheet date providing the material conditions for their effectiveness exist within the scope of a legislative procedure. Deferred taxes relating to items entered directly in equity are entered in equity and not in the income statement.

Deferred tax assets and deferred tax liabilities are offset against one another if the group has a legally enforceable right to set off current tax assets against current tax liabilities and these relate to taxes levied by the same tax authority on the same tax object.

Leases

Determining whether an agreement is, or contains, a lease is based on the substance of the arrangement and requires an assessment of whether fulfillment of the arrangement is dependent on the use of a specific asset or assets and whether the arrangement conveys a right to use the asset.

In the case of financial leases, in which basically all opportunities and risks associated with ownership of the lease asset are transferred to the Group, the lease asset is capitalized at the conclusion of the lease agreement. The lease asset is recognized at fair value or at the present value of the minimum lease payments, if this figure is lower. Lease payments are split into financial expenses and the repayment portion of the residual debt so as to produce a constant rate of interest on the remaining balance of the lease debt. Financial expenses are immediately recognized in the income statement.

If there is no reasonable certainty that the Group will obtain ownership by the end of the lease term, the capitalized lease assets are fully depreciated over the shorter of the two periods, expected useful life and the term of the lease agreement.

Lease payments under operating leases are recognized as an expense in the income statement on a straight-line basis over the lease term.

Derivative financial instruments and hedging

Derivative financial instruments and hedging
First Sensor ensures that it has sufficient funds and irrevocable credit lines available to meet its financial obligations at all times. Credit risk, or the risk that a contractual partner fails to meet its payment obligations, is managed by means of loan commitments, credit lines and control measures. Where appropriate, the company obtains security in the form of rights in securities or arranges master netting agreements.

The maximum credit risk relates to the amounts of financial assets capitalized on the balance sheet.

Currency risk
There is no significant exchange rate risk since most of the transactions concluded by the companies within the Group are in euro. However, materials are purchased in US-dollars abroad. To the extent that it is economically appropriate, corresponding forward foreign exchange contracts are concluded for this purpose. Foreign currency risks are reduced by the independent operation of First Sensor Inc. and in part by First Sensor AG invoicing in USD.

Interest rate exposure and hedging
The risk of market interest rate fluctuations to which the Group is exposed results predominantly from non-current financial liabilities with variable interest rates. This risk is countered by borrowing fixed-rate loans and, when variable-rate loans are procured, by concluding derivative financial instruments (interest rate swaps).

Derivative financial instruments are measured at fair value at the time of the agreement and in the following periods. They are reported as assets if their fair value is positive and liabilities if their fair value is negative.

Gains or losses arising from changes in the fair value of derivative financial instruments that do not meet the hedge accounting criteria are recognized immediately in the income statement.

The fair value of interest rate swap contracts is measured by reference to the market values of similar instruments.

As at December 31, 2018, First Sensor had used hedging instruments to hedge interest rate risks (cash flow hedge). These instruments were reported as follows in accordance with the strict criteria for hedge accounting.

The effective portion of the gain or loss from a hedging instrument is recorded directly in equity while the ineffective portion is immediately recognized as profit or loss.

The amounts recognized in equity are reclassified to profit or loss in the period during which the hedged transaction affects profit or loss for the period, for example when hedged financial income or expenses are reported or when a forecast sale takes place.

If hedging results in the recognition of a non-financial asset or a non-financial liability, the amounts recorded in equity become part of the cost at the initial measurement of the non-financial asset or liability.

If a forecast transaction or firm commitment is no longer expected to occur, the amounts previously recorded in equity are transferred to the income statement. When the hedging instrument expires or is sold, terminated or exercised without the hedging instrument being replaced or rolled over into a different hedging instrument, the amounts recorded in equity remain there as separate line items in equity until the forecast transaction or firm commitment occurs. The same applies if it is determined that the hedging instrument no longer meets the hedge accounting criteria.

3. Intangible Assets

In € thousand	Orders on hand	Concessions, licenses and simila	Goodwill	Internally generated intangible assets	Customer base/ brand	Advance payments	Dec. 31, 2017
Cost of purchase							
January 01, 2017	**1,452**	**11,248**	**39,112**	**6,641**	**24,075**	**1,097**	**83,625**
Additions	0	308	0	2,357	0	1,534	**4,199**
Disposals	0	-95	0	-707	0	0	**-802**
Reclassifications	0	762	0	-745	0	0	**17**
Exchange differences	0	-4	0	-27	0	0	**-31**
December 31, 2017	**1,452**	**12,219**	**39,112**	**7,519**	**24,075**	**2,631**	**87,008**
Cumulative depreciation							
January 01, 2017	**1,452**	**9,082**	**9,296**	**1,738**	**12,905**	**0**	**34,473**
Additions	0	799	0	748	2,210	0	**3,757**
Disposals	0	-95	0	-30	0	0	**-125**
Reclassifications	0	44	0	-44	0	0	**0**
Exchange differences	0	-4	0	0	0	0	**-4**
December 31, 2017	**1,452**	**9,826**	**9,296**	**2,412**	**15,115**	**0**	**38,101**
Carrying amount as at January 01, 2017	**0**	**2,166**	**29,816**	**4,903**	**11,170**	**1,097**	**49,152**
Carrying amount as at December 01, 2017	**0**	**2,393**	**29,816**	**5,107**	**8,960**	**2,631**	**48,907**

In € thousand	Orders on hand	Concessions, licenses and simila	Goodwill	Internally generated intangible assets	Customer base/ brand	Advance payments	Dec. 31, 2018
Cost of purchase							
January 01, 2018	**1,452**	**12,219**	**39,112**	**7,519**	**24,075**	**2,631**	**87,008**
Changes of consolidation scope	0	-3	0	0	0	0	**-3**
Additions	0	148	0	1,642	0	207	**1,997**
Disposals	0	-1	0	-189	0	0	**-190**
Reclassifications	0	2,066	0	0	0	-2,059	**7**
Exchange differences	0	1	0	21	0	0	**22**
December 31, 2018	**1,452**	**14,430**	**39,112**	**8,993**	**24,075**	**779**	**88,841**
Cumulative depreciation							
January 01, 2018	**1,452**	**9,826**	**9,296**	**2,412**	**15,115**	**0**	**38,101**
Additions	0	918	0	460	2,177	0	**3,555**
Disposals	0	-1	0	0	0	0	**-1**
Reclassifications	0	0	0	0	0	0	**0**
Exchange differences	0	1	0	0	0	0	**1**
December 31, 2018	**1,452**	**10,744**	**9,296**	**2,872**	**17,292**	**0**	**41,656**
Carrying amount as at January 01, 2018	**0**	**2,393**	**29,816**	**5,107**	**8,960**	**2,631**	**48,907**
Carrying amount as at December 01, 2018	**0**	**3,686**	**29,816**	**6,121**	**6,783**	**779**	**47,185**

Intangible assets neither served as securities for liabilities nor were otherwise restricted at the balance sheet date.

Brands

Brands that were acquired as part of the acquisition of all shares in the Sensortechnics Group in 2011 were identified as intangible assets as follows. The carrying amount is compared with the previous year's figure:

In € thousand	Dec. 31, 2017	Dec. 31, 2018	Δ absolute	in %
In € thousand	797	797	0	0
Total	**797**	**797**	**0**	**0**

The Klay Instruments brand is not amortized. The Sensortechnics and ELBAU brands were written off in full as at December 31, 2015, since both brand names are no longer used as a result of concentrating on the "First Sensor" umbrella brand.

Customer base

Customer bases that were acquired as part of the acquisition of the shares in the Sensortechnics Group in 2011 were identified as intangible assets. The table shows the carrying amounts. The customer bases are amortized over an estimated useful life of 6 to 10 years using the straight-line method. The amortization amount was €2,177 thousand in 2018 (previous year: €2,210 thousand).

In € thousand	Dec. 31, 2017	Dec. 31, 2018	Δ absolute	in %
Sensortechnics Customized	3,569	2,617	-952	-26.7
Sensortechnics Distributed	0	0	0	0
First Sensor AG subsidiary Berlin-Weißensee (prev.: ELBAU)	3,205	2,350	-855	-26.7
Klay Instruments B.V.	1,389	1,019	-370	-26.6
Total	**8,163**	**5,986**	**-2,177**	**-26.7**

Development

The development work reported following the acquisition of First Sensor Microelectronic Packaging GmbH is subject to scheduled amortization over 20 years starting from the initial marketing. The effective amortization charge in 2018 amounted to €23 thousand (previous year: €23 thousand). The residual carrying amount was €183 thousand at the balance sheet date.

Following the acquisition of First Sensor Technology GmbH, intangible assets of €672 thousand were reported relating to the company's own developments and technologies. The residual carrying amount was written down to zero in 2017 as planned.

4. Internally Generated Intangible Assets

Internally generated intangible assets are capitalized at First Sensor in connection with developments for new products and technologies. It is assumed in this process that they will be used at a later date and will generate corresponding returns. Carrying amounts of €6,121 thousand (previous year: €5,107 thousand) were reported for internally generated intangible assets as at the balance sheet date. Write-downs of €460 thousand (previous year: €748 thousand) were recognized on these in the year under review.

5. Goodwill

Goodwill as at December 31, 2018 related to the following companies:

In € thousand	2017	2018
First Sensor Lewicki GmbH	1,846	1,846
First Sensor Technology GmbH	1,125	1,125
Former: Sensortechnics-Group	26,390	26,390
MEMSfab GmbH	455	455
Total	**29,816**	**29,816**

To test goodwill for impairment, the value in use of the unit was calculated and compared with the carrying amount. If the carrying amount exceeds the value in use, a valuation allowance is recognized. The value in use is calculated based on the discounting of operating cash flows for the planning period, derived from the WACC method. An indicative check was carried out using the income capitalization approach.

The following basic assumptions were made as parameters for the impairment test:

Assumptions in impairment test	2017	2018
Risk-free basic interest rate	1.25%	1.00%
Market risk premium	7.00%	7.00%
Beta factor	1.0	1.1
Pre-tax borrowing rate	3.00%	2.90%
WACC pre-tax	11.15%	11.50%
WACC after tax	7.63%	8.03%

First Sensor Lewicki GmbH

First Sensor reports goodwill amounting to €1,846 thousand resulting from the acquisition of all shares in First Sensor Lewicki GmbH in 2000. In accordance with IAS 36, goodwill on this company was tested for potential impairment as at December 31, 2018 on the basis of the value in use taking into account the following assumptions:

- Sales are expected to increase slightly between 2018 and 2021.
- A growth rate of 1% in the projection variables for 2022 (terminal value).
- The discount factor based on the WACC method is 8.03% after tax (previous year: 7.63%) and 11.50% before tax (previous year: 11.15%).

As in the previous year, the impairment test did not give rise to any impairment as at the balance sheet date. The Executive Board bases its assumptions relating to forecasts for the determination of value in use on past experience.

First Sensor Technology GmbH / Sensortechnics Group / MEMSfab GmbH

First Sensor acquired all shares in First Sensor Technology GmbH in fiscal year 2010. This acquisition resulted in goodwill of €1,125 thousand. On the basis of the merger agreement dated August 24, 2015, retroactively to January 1, 2015 First Sensor Technology GmbH was merged by transfer of assets with First Sensor AG and was dissolved without being wound up in accordance with section 2 of the German Transformation Act.

First Sensor acquired all shares in the Sensortechnics Group in fiscal year 2011. This acquisition resulted in goodwill of €26,390 thousand. On the basis of the merger agreement dated June 28, 2012, retroactively to 1 January 2012 Sensortechnics GmbH was merged by transfer of assets with First Sensor AG and was dissolved without being wound up in accordance with section 2 of the German Transformation Act. On the basis of the merger agreement dated April 17, 2013 retroactively to 1 January 2013, Elbau Elektronik Bauelemente GmbH Berlin was merged by transfer of assets with First Sensor AG and was dissolved without being wound up in accordance with section 2 of the German Transformation Act.

First Sensor acquired all shares in MEMSfab GmbH in fiscal year 2011. This acquisition resulted in goodwill of €455 thousand. In accordance with a merger agreement dated June 27, 2013 with an addendum dated October 30, 2013, the company merged with First Sensor AG and was dissolved without being wound up.

In fiscal year 2018, the impairment test was changed so that the goodwill figures resulting from the acquisitions of First Sensor Technology GmbH, the Sensortechnics Group and MEMSfab GmbH, which previously had been transferred consistently to First Sensor AG, are subjected to a common impairment test, with First Sensor AG as cash-generating unit.

This change was driven by the fact that at the latest since the merger with First Sensor AG, the value creation process within First Sensor AG takes place increasingly not on an isolated basis in the individual units, but across these individual units. As a result, the development and production process is now managed in such as way that in the individual units specific valuation creation occurs on a specified general basis, no longer in isolation. In addition, in organizational terms, since the introduction of the new SAP ERP system as at January 1, 2018, supply and service relationships between the individual units are no longer mapped and managed on an isolated basis as sub-processes within the respective units, but in an overarching ongoing production process. As a result, the cash flows identified within the units can no longer be regarded largely independently from the other units.

Restructuring of the cash-generating units is not expected to have a material impact on the impairment tests. This is because in impairment tests in previous years, internal expenses and income had already been reallocated, so it is unnecessary to do this in the future.

Goodwill on this company was tested for potential impairment on the basis of the value in use, taking into account the following assumptions:

- Sales are expected to increase slightly from 2018 to 2021.
- A growth rate of 1% in the projection variables for 2022 (terminal value).
- The discount factor based on the WACC method is 8.03% after tax (previous year: 7.63%) and 11.50% before tax (previous year: 11.15%).

As in the previous year, the impairment test did not give rise to any impairment as at the balance sheet date. The Executive Board bases its assumptions relating to forecasts for the determination of value in use on past experience.

6. Property, Plant and Equipment

In € thousand	Land and buildings	Technical equipment and machinery	Office equipment	Advance payments, assets under construction	Dec. 31, 2017
Cost of purchase					
January 01, 2017	**18,373**	**44,641**	**9,760**	**1,410**	**74,184**
Additions	14	1,633	796	6,542	**8,985**
Disposals	0	-246	-126	-42	**-414**
Reclassifications	208	1,858	481	-2,564	**-17**
Exchange differences	8	-27	-49	-1	**-69**
December 31, 2017	**18,603**	**47,859**	**10,862**	**5,345**	**82,669**
Cumulative depreciation					
January 01, 2017	**5,981**	**28,345**	**6,840**	**53**	**41,219**
Depreciation and amortization	619	3,570	1,138	0	**5,327**
Disposals	0	-245	-11	-13	**-269**
Exchange differences	8	-15	-44	0	**-51**
December 31, 2017	**6,608**	**31,655**	**7,923**	**40**	**46,226**
Carrying amount as at January 01, 2017	**12,392**	**16,296**	**2,920**	**1,357**	**32,965**
Carrying amount as at December 01, 2017	**11,995**	**16,204**	**2,939**	**5,305**	**36,443**

In € thousand	Land and buildings	Technical equipment and machinery	Office equipment	Advance payments, assets under construction	Dec. 31, 2018
Cost of purchase					
January 01, 2018	**18,603**	**47,859**	**10,862**	**5,345**	**82,669**
Changes of consolidation scope	0	-9	-2	14	**3**
Additions	150	2,328	895	4,429	**7,802**
Disposals	0	-644	-312	0	**-956**
Reclassifications	0	3,331	86	-3,424	**-7**
Exchange differences	4	12	13	-1	**28**
December 31, 2018	**18,757**	**52,877**	**11,542**	**6,363**	**89,539**
Cumulative depreciation					
January 01, 2018	**6,608**	**31,655**	**7,923**	**40**	**46,226**
Depreciation and amortization	625	3,698	1,147	0	**5,470**
Disposals	0	-644	-226	0	**-870**
Exchange differences	4	1	12	0	**17**
December 31, 2018	**7,237**	**34,710**	**8,856**	**40**	**50,843**
Carrying amount as at January 01, 2018	**11,995**	**16,204**	**2,939**	**5,305**	**36,443**
Carrying amount as at December 01, 2018	**11,520**	**18,167**	**2,686**	**6,323**	**38,696**

Property, plant and equipment with a carrying amount of €14,015 thousand (previous year: €1,954 thousand) served neither as security for liabilities nor were otherwise restricted as at the balance sheet date.

7. Inventories

In € thousand	Dec. 31, 2017	Reclassification as of Jan. 01, 2018	As on Jan. 01, 2018	Dec. 31, 2018	Δ absolute	in %
Raw materials and supplies	11,067	25	11,092	14,159	3,067	27.6
Unfinished goods and work in progress	6,340	3,842	10,182	12,686	2,504	24.6
Finished goods and products	7,113	-3,867	3,246	5,213	1,967	60.6
Advance payments on inventories	106	0	106	136	30	28.3
Total	**24,626**	**0**	**24,626**	**32,194**	**7,568**	**30.7**

As a result of the introduction of the new ERP system at First Sensor AG, there were system-related classifications in the allocation of products. The mapping of products shifted within the Berlin and Puchheim by Munich locations in the new system thus results in new initial figures for inventories as at January 1, 2018 (start SAP) for the changes in inventories.

The write-down on inventories was recognized as expense and amounted to €137 thousand (previous year: €737 thousand). This expense was reported under cost of materials for write-downs on materials and other supplies and under changes in inventories for unfinished goods, work in progress and finished goods.

As in the previous year, there were no assigned inventories as at the balance sheet date.

8. Trade Accounts Receivables

In € thousand	Dec. 31, 2017	Dec. 31, 2018	Δ absolute	in %
Trade accounts receivables	20,922	18,017	-2,905	-13.9
Less allowances for doubtful accounts	-157	-157	25	15.9
Total	**20,765**	**20,765**	**-2,880**	**-13.9**

Accounts receivable are not interest-bearing and are generally due within 30-90 days. Allowances of €132 thousand (previous year: €157 thousand) were made for doubtful receivables from the sale of goods and services. This equates to a default ratio of 0.7% (previous year: 0.8%).

Changes in the allowance account were as follows:

In € thousand	2017	2018	Δ absolute	in %
Beginning of the period	**152**	**157**	**5**	**3.3**
Allocation to expenses	95	48	-47	-49.5
Utilization	-1	0	-1	-
Reversal	-89	-73	16	18.0
End of the period	**157**	**132**	**-25**	**15.9**

As at December 31, 2018, the age structure of past due accounts receivables is as follows:

In € thousand	Dec. 31, 2017	Dec. 31, 2018	Δ absolute	in %
Not due	14,442	11,709	-2,733	-18.9
Less than 30 days past due	4,202	3,793	-409	-9.7
Between 30 and 60 days past due	772	989	217	28.1
Between 61 and 90 days past due	303	303	0	-
Between 91 and 120 days past due	215	320	105	48.8
More than 120 days past due	831	771	-60	-7.2
Total	**20,765**	**17,885**	**-2,880**	**-13.9**

Trade receivables with a maturity of more than 120 days contain more than 60% of an individual case, which is highly likely to be in favor of First Sensor AG in the initiated legal proceeding. For the other overdue receivables, appropriate individual value adjustments were made where necessary.

9. Other Current Assets

In € thousand	Dec. 31, 2017	Dec. 31, 2018	Δ absolute	in %
Prepayments and accrued income	684	956	272	39.8
Value-added tax receivables	2,090	384	-1,706	-81.6
Insurance claim	143	144	1	0.7
Research and development funding	2	2	0	0
Others	401	1,281	880	219.4
Total	**3,320**	**2,767**	**-553**	**-16.6**

10. Cash and Cash Equivalents

In € thousand	Dec. 31, 2017	Dec. 31, 2018	Δ absolute	in %
Cash in hand	20	4	-16	-80.0
Bank balances	25,485	28,530	3,045	11.9
Total	**25,505**	**28,534**	**3,029**	**11.9**

Bank balances are partly subject to variable interest rates for money at call. The fair value of cash and cash equivalents amounted to €28,534 thousand (previous year: €25,505 thousand).

11. Capital Stock

The share capital reported as subscribed capital on the balance sheet totaled €51,111,980.00 as at the balance sheet date (previous year: €51,081,980.00). It was made up of 10,222,396 shares (previous year: 10,216,396 shares), each with a nominal value of €5.00. The share capital of First Sensor AG increased by €30,000.00 year-on-year as a result of subscription rights from the 2013 share option plan being exercised.

2018	Shares*	Share capital**
Beginning of the financial year	**10,216**	**51,082**
Share option plan for 2013	6	30
End of the financial year	**10,222**	**51,112**

2017	Shares*	Share capital**
Beginning of the financial year	**10,208**	**51,042**
Share option plan for 2009	8	40
End of the financial year	**10,216**	**51,082**

* Number of shares in thousand
** In € thousand

Authorized Capital

The Executive Board is authorized to increase the company's share capital by up to €25,379,150.00 by issuing up to 5,075,830 new bearer shares (Authorized Capital 2015/I) up to May 27, 2020, with the approval of the Supervisory Board, in one or more transactions. The capital can be increased against cash or non-cash contributions. Shareholders are granted subscription rights. Shareholders can also be granted subscription rights indirectly in accordance with section 186 (5) AktG (German Stock Corporation Act).

The Executive Board is, however, authorized, with the approval of the Supervisory Board, to disapply the subscription right of shareholders in certain circumstances in accordance with the further provisions of point 5c) of the agenda of the Annual General Meeting as published in the German Federal Gazette (Bundesanzeiger).

As at December 31, 2018, Authorized Capital 2015/I amounted to €25,379,150.00.

Contingent capital

The contingent capital of First Sensor AG is presented in the following table

In € thousand	Dec. 31, 2017	Dec. 31, 2018
Contingent capital 2009/II	109	109
Contingent capital 2013/I	455	425
Contingent capital 2016/II	2,600	2,600
Contingent capital 2017/I	1,200	1,200
Contingent capital 2017/II	19,000	19,000
Total	**23,364**	**23,334**

As at December 31, 2018, contingent capital totaled €23,333,585.00 (previous year: €23,363,585.00). The contingent capital increase will be carried out only to the extent that the bearers of subscription rights exercise the subscription rights granted under the respective share option plans from Contingent Capital 2009/II, Contingent Capital 2013/I, Contingent Capital 2016/II and Contingent Capital 2017/I. The contingent capital increase 2017/II will be carried out only to the extent that the holders of convertible or option bonds exercise their subscription rights. No such bonds had been issued as at the reporting date.

12. Reserves

Changes in reserves were as shown in the statement of changes in equity. The items are explained below:

a) Capital reserves - share premium
Due to the exercising of 6,000 subscription rights from the SOP 2013 at an exercise price of €15.00, in 2018 the capital reserves increased by the exercise price exceeding the computed nominal value per share (€5.00) by €60 thousand in total.

b) Capital reserves – share options
Expenses of €311 thousand (previous year: €140 thousand) resulting from the ongoing share option programs were recognized in the income statement under Personnel expenses and as an addition to capital reserves.

c) Revaluation reserves
The portion of the profit or loss from cash flow hedging instruments that is determined to be an effective hedge is recorded in this item. The actuarial gains and losses from pension provisions are also recorded in this item. The respective tax effects are also recorded here.

d) Currency translation
In the consolidated balance sheet, another reserve is reported within equity for exchange equalization items. This item is for recognizing the differences arising from the conversion of the financial statements of the foreign subsidiaries.

13. Non-Current Post-Employment Benefit Obligation

The employees working at the production facilities in Puchheim by Munich (FSM) received pension commitments. The pension plans are based on the number of years of service. The pension commitments are essentially financed through the recognition of pension provisions. The measurement of employee benefits and the expenses required to cover these benefits are based on the procedures prescribed in IAS 19 (Employee Benefits). As a result of this change, actuarial gains and losses and past service cost are to be recognized in other comprehensive income.

Changes to the defined benefit obligation were as follows:

In € thousand	2017	2018
Defined Benefit Obligation (DBO) as at January 1	300	277
Reclassifications/changes in the scope of consolidation	0	0
Service cost	0	0
Interest cost	5	5
Actuarial gains (-) / losses (+)	-2	16
Pension payments	-26	-26
Defined Benefit Obligation (DBO) as at December 31	277	272

The pension provisions are to be derived from the defined benefit obligation as follows:

In € thousand	Dec. 31, 2017	Dec. 31, 2018
Defined Benefit Obligation	277	272
Plan assets	0	0
Balance sheet recognition	**277**	**272**

The post-employment benefit obligations must be deduced as follows from the defined benefit obligation:

In € thousand	Dec. 31, 2014	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2018
Defined Benefit Obligation	323	312	300	277	272
Plan assets	0	0	0	0	0
Deficit	**323**	**312**	**300**	**277**	**272**

Pension expense was as follows:

In € thousand	2017	2018
Service cost	0	0
Interest cost	5	5
Actuarial gains (-) / losses (+)	0	0
Total	**5**	**5**

The interest cost is recorded separately in the financial result.

Pension payments of €26 thousand are expected for the following fiscal year – as in the previous year.

The calculations are based on the 2018 G mortality tables produced by K. Heubeck and the following assumptions:

In € thousand	Dec. 31, 2017	Dec. 31, 2018
Interest rate	1.90	1.60
Salary trend	0	0
Pension trend	1.80	1.80

A change in the main actuarial assumptions (interest rate, salary trend, pension trend) of 1 percentage point up or down would have an impact of no more than €60 thousand on the defined benefit obligation in each case.

14. Other Provisions

In € thousand	Warranties
Current	1,259
Non-current	0
December 31, 2017	**1,259**
Uitilization	-439
Reversal	-186
Allocation	402
Rebooking	55
December 31, 2018	**1,091**
Current	1,091
Non-current	0

The provision for warranty obligations was recognized for products sold in the past two years. The underlying assumptions applied in calculating the warranty provision are based on sales under warranty and currently available information on claims within the two-year warranty period. In addition, warranty provisions for current claims were recognized in the amount of €338 thousand (previous year: €382 thousand) based on anticipated utilization. These expenses are expected to be incurred within the next fiscal year.

15. Financial Liabilities

In € thousand	Dec. 31, 2017	Dec. 31, 2018
Current up to 1 year	16,115	**3,891**
Non-current	32,184	**44,111**
of which 1 - 5 years	32,184	**37,611**
of which more than 5 years	0	**6,500**
Total	**48,299**	**48,002**

In November 2018, First Sensor AG drew on the €13.0 million KfW loan taken out in 2017 as agreed. The loan with a duration of 10 years and a fixed interest rate of 1.15% p.a. will be repaid in quarterly installments from March 31, 2020. The assignment of machines and equipment at the Berlin-Weißensee location serve as collateral for the loan. Jointly liable are First Sensor Microelectronic Packaging GmbH and First Sensor Lewicki GmbH.

Promissory note loans

First Sensor placed three promissory note loans totaling €28.0 million on December 15, 2015.

As part of the placement, German institutional investors subscribed to promissory notes with terms of five years (€18.0 million, variable rate and €7.0 million, fixed rate) and seven years (€3.0 million, fixed rate). The promissory note pays variable interest with a margin calculated on the basis of 6-month EURIBOR. The financial ratios for the placed promissory notes are leverage and equity ratio.

The fixed-rate promissory note loan of €12.0 million in place since 2013 was repaid on schedule on December 20, 2018.

The key financial ratios are calculated annually. The interest rate risk will be reduced through over the term fixed interest rates and normal hedging mechanisms (see “Derivative financial instruments”).

Leases and hire purchase agreements

The Group has signed leases and hire purchase contracts for a range of technical machinery and office equipment. The leases are all operating leases. The future minimum payments under leases and hire purchase contracts can be reconciled to their present values as follows:

December 31, 2017 In € thousand	Minimum lease payments	Present value of minimum lease payments
Current up to 1 year	1,460	1,405
Between 1 and 5 years	3,415	3,244
More than 5 years	307	289
Total minimum lease payments	**5,182**	**4,938**
Less discount	244	0
Present value of the minimum lease payments	**4,938**	**4,938**

December 31, 2018 In € thousand	Minimum lease payments	Present value of minimum lease payments
Current up to 1 year	1,250	1,190
Between 1 and 5 years	3,089	2,916
More than 5 years	1	1
Total minimum lease payments	**4,340**	**4,107**
Less discount	233	0
Present value of the minimum lease payments	**4,107**	**4,107**

Expenses from leases and hire purchase agreements of €922 thousand (previous year: €888 thousand) were reported in the year under review. € 679 thousand (previous year: €651 thousand) of this amount was recorded for operating leases.

As at December 31, 2018, the net carrying amount of the technical equipment and machinery financed by means of leasing and pledged to the lessor was €3,956 thousand (previous year: €4,653 thousand). Leased assets with a net carrying amount of €180 thousand were added in the fiscal year (previous year: €2,885 thousand).

Others

As at the 2018 balance sheet date, First Sensor had unutilized credit lines of €10,070 thousand (previous year: €11,050 thousand).

16. Other Non-Current Liabilities

Other non-current liabilities mainly include deferred investment grants/allowances of €3,203 thousand (previous year: €3,457 thousand). These relate to government grants and were paid out mainly in the form of investment grants for the new production facilities built in Berlin. The grants paid are dependent on evidence of implementation of the investment measures and compliance with conditions related to retention of the assets and future job creation.

In addition, the negative market values of interest rate hedging instruments of €309 thousand (previous year: €81 thousand) are recognized in other non-current financial liabilities.

17. Other Current Liabilities

In € thousand	Dec. 31, 2017	Dec. 31, 2018
Liabilities due to staff	1,810	3,495
Liabilities from income tax	2,723	652
Liabilities from church tax, social security	97	94
Others	6,062	3,753
Total	**10,692**	**7,994**

All of the other current liabilities are not interest-bearing.

18. Obligations Arising From Employee Benefits

Share option plan

Three share option plans are currently in place:

- Share option plan for 2013 (SOP 2013)
- Share option plan for 2016/II (AOP 2016/II)
- Share option plan for 2017/I (AOP 2017/I)

These plans state that options to acquire ordinary shares may be granted to members of the Executive Board, directors of affiliated companies, employees of the company and employees of affiliated companies.

	SOP 2013	SOP 2016/II	SOP 2017/I
Annual shareholders meeting resolution*	**Aug. 20, 2013***	**May 04, 2016**	**May 27, 2017**
Term of the share option plan	3 years	3 years	2 years
Vesting period (following issue)	4 years	4 years	4 years
Exercise period (folling expiry of vesting period)	5 years	3 years	3 years
Maximum subscription rights (total volume)	**91,000***	**520,000**	**240,000**

*Adjusted to resolution oft he Annual General Meeting on May 27, 2017

Share options are exercised subject to the following conditions.

SOP 2013
The SOP 2013 share option plan has a three-year term. The option program was reduced to 91,000 options by resolution of the Annual General Meeting on May 27, 2017. The plan is divided into three groups of entitled persons:

- For members of the company's Executive Board
- For directors of affiliated companies
- For employees of the company or of affiliated companies

Subscription rights can be issued to entitled persons from the total volume every year during the term of the 2013 share option plan.

Subscription rights may be issued to entitled persons only during the period from the announcement of the previous fiscal year's results by the Executive Board to the end of the fiscal year and not before Contingent Capital 2013/1 has been entered in the commercial register.

The subscription rights may be exercised only after a vesting period. This vesting period lasts for at least four years from the time the subscription rights are granted. The rights may be exercised within five years of the end of the respective vesting period. Options that have not been exercised by the end of this period shall be forfeited without replacement or compensation.

Subscription rights may not be exercised in the three weeks preceding the announcement of quarterly results or in the period between the end of a fiscal year and the publication of the company's consolidated financial statements. The same applies even if an exercise window opens during these blocking periods.

The exercise price for subscription rights is €15.00 per subscription right.

Subscription rights may be exercised within the exercise period only if the performance target has been achieved within a period of six weeks prior to exercise. The performance target has been achieved if the closing price of shares in the company in XETRA (or a comparable successor system on the Frankfurt Stock Exchange) meets or exceeds the exercise price of €15.00 on ten consecutive trading days.

Options are non-transferable, except in the event of the death of the entitled person.

Further details of the granting of options and further conditions for exercising them are determined by the Supervisory Board if members of the company's Executive Board are affected. If employees of the company are impacted or if options are to be granted to directors of affiliated companies, the company's Executive Board shall determine further details.

A total of 185,208 subscription rights have so far been issued to executive board members. After the executive board member leaves the company, these subscription rights are forfeited. In addition, a total of 118,000 subscription rights were granted to directors of affiliated companies and employees of the company and affiliated companies.

SOP 2016/II

The share option plan 2016/II was resolved at the Annual General Meeting on May 4, 2016. It provides for up to 520,000 subscription rights to be issued to members of the Executive Board, directors of affiliated companies in Germany and abroad and managers at the company by December 31, 2019. If subscription rights are forfeited because entitled persons leave the company within the authorization period, a corresponding number of subscription rights may be issued again.

The total volume of the subscription rights share option plan 2016/II breaks down across the groups of entitled persons as follows:

- Members of the company's Executive Board will receive a maximum of up to 160,000 options in total (up to around 30.8%)
- Directors of affiliated companies will receive a maximum of up to 70,000 options in total (up to around 13.5%)
- Managers at the company will receive a maximum of up to 290,000 options in total (up to around 55.7%)

Subscription rights may be issued for the first time in fiscal year 2016.

The subscription rights may be exercised for the first time after a vesting period of four years from the respective issue date. Overall, the subscription rights each have a term of seven years from the issue date; after this they are forfeited without replacement. After the end of the vesting period, subscription rights may be exercised if the performance target has been achieved within a period of 30 trading days prior to exercise. The exercise price corresponds to the average closing price of the share on the 30 consecutive trading days before the respective issue date of the options plus 20%. However, the exercise price for the subscription rights issued in fiscal years 2017 and 2018 amounts to at least €15.00. The performance target has been achieved if the closing price of the share meets or exceeds the exercise price on 30 consecutive trading days. The exercise price for the subscription rights is amounted to €12 per subscription right.

In addition to the achievement of the performance target, exercise of the subscription rights is also subject to the strict requirement that the beneficiary must have acquired one share in the company for every ten subscription rights granted no later than six months after the issue date of the respective subscription rights and must have held these shares continuously in his or her own name up until the date when these subscription rights are first exercised. If there is no such proof of the acquisition of shares, the subscription rights cannot be exercised.

Subscription rights may be inherited but they may not be transferred or sold. They may not be pledged.

In order to service the share option plan 2016/II, the contingent capital 2016/II was created in the amount of €2,600,000.00.

A total of 282,000 subscription rights were granted under the share option plan 2016/II in fiscal year 2016. 110,000 of these subscription rights were granted to the CFO. The value of one option issued amounted to €2.00 and was calculated using the Black-Scholes model.

A total of 67,000 subscription rights were granted under the share option plan 2016/II in fiscal year 2017. 25,000 of these subscription rights were granted to the CFO. The value of one option issued amounted to €3.08 and was calculated using the Black-Scholes model. The calculation was based on the following parameters: Share price on the grant day of €11.73, volatility of 39.4% and an interest rate of 0.0%. In addition, it was assumed that an annual non-exercise rate of 15% would arise.

A total of 93,000 subscription rights were granted under the share option plan 2016/II in fiscal year 2018. 25,000 of these subscription rights were granted to the CFO. The value of one option issued amounted to €7.91 and was calculated using the Black-Scholes model. The calculation was based on the following parameters: Share price on the grant day of €25.20, volatility of 44.32% and an interest rate of 0.0%. In addition, it was assumed that an annual non-exercise rate of 15% would arise.

SOP 2017/I

The share option plan 2017/I was resolved at the Annual General Meeting on May 27, 2017. It provides for up to 240,000 subscription rights to be issued to members of the Executive Board by December 31, 2019. If subscription rights are forfeited because entitled persons leave the company within the authorization period, a corresponding number of subscription rights may be issued again.

Subscription rights may be issued for the first time in fiscal year 2017.

The subscription rights may be exercised for the first time after a vesting period of four years from the respective issue date. Overall, the subscription rights each have a term of seven years from the issue date; after this they are forfeited without replacement. After the end of the vesting period, subscription rights may be exercised if the performance target has been achieved. The performance target has been achieved if the closing price of the share in XETRA (or a comparable successor system on the Frankfurt Stock Exchange) meets or exceeds the exercise price on 30 consecutive trading days prior to exercise. The exercise price corresponds to the average closing price of the share on the 30 consecutive trading days before the respective issue date of the options plus 20%. However, the exercise price for the subscription rights issued in fiscal years 2017 and 2018 amounts to at least €15.00.

In addition to the achievement of the performance target, exercise of the subscription rights is also subject to the strict requirement that the beneficiary must have acquired one share in the company for every ten subscription rights granted no later than six months after the issue date of the respective subscription rights and must have held these shares continuously in his or her own name up until the date when these subscription rights are first exercised. If there is no such proof of the acquisition of shares, the subscription rights cannot be exercised.

In order to service the share option plan 2017/I, the contingent capital 2017/I was created in the amount of €1,200,000.00.

A total of 80,000 subscription rights were granted to the CEO of First Sensor AG under the share option plan 2017/I in fiscal year 2017. The value of one option issued amounted to €4.16 and was calculated using the Black-Scholes model. The calculation was based on the following parameters: Share price on the grant day of €14.14, volatility of 39.4% and an interest rate of 0.0%. In addition, it was assumed that an annual non-exercise rate of 15% would arise.

A total of 80,000 subscription rights were granted to the CEO of First Sensor AG under the share option plan 2017/I in fiscal year 2017. The value of one options issued amounted to €7.91 and was calculated using the Black-Scholes model. The calculation was based on the following parameters: Share price on the grant day of €25.20, volatility of 44.32% and an interest rate of 0.0%. In addition, it was assumed that an annual non-exercise rate of 15% would arise.

19. Sales Revenues

In € thousand	2017	2018	Δ absolute	in %
DACH*	74,303	76,378	2,075	2.8
Rest of Europe	40,414	38,790	-1,624	-4.0
North America	17,293	19,244	1,951	11.3
Asia	14,911	19,416	4,505	30.2
Others	579	1,320	741	127.9
Total	**147,500**	**155,148**	**7,648**	**5.2**

* Germany, Austria, Switzerland, Liechtenstein

Revenues mainly result from the sale of customer-specific semiconductor sensors, sensor systems and development and production services. Sales deductions of €92 thousand were granted in the year under review (previous year: €309 thousand).

20. Other Operating Income

Other operating income breaks down as follows:

In € thousand	2017	2018	Δ absolute	in %
Income from other benefits in kind	678	585	-93	-13.7
Proceeds from reversing provisions	570	476	-94	-16.5
Insurance claim payments	735	426	-309	-42.0
Development grants	633	422	-211	-33.3
Prior-period incom	227	265	38	16.7
Investment allowances	189	159	-30	-15.9
Investment grants	93	95	2	2.2
Others	206	162	-44	-21.4
Total	**3,331**	**2,590**	**-741**	**-22.2**

21. Change in Inventories

In € thousand	2017	2018	Δ absolute	in %
Unfinished goods and work in progress	-317	2.503	2.820	889.6
Finished goods	-1.234	1.977	3.211	260.2
Eliminating unrealized income	66	-9	-75	-115.2
Total	**-1.485**	**4.471**	**5.956**	**401.1**

22. Own Work Capitalized

In € thousand	2017	2018	Δ absolute	in %
Capitalized development costs	1.435	1.630	195	13.6
Other capitalized costs	1.072	335	-737	-68.8
Total	**2.507**	**1.965**	**-542**	**-21.6**

Capitalized costs in 2018 amounted to €1,965 thousand (previous year: €2,507 thousand). Capitalized development costs pursuant to IAS 38 accounted for €1,630 thousand (previous year: €1,435 thousand) of this sum. Other capitalized costs related mainly to measures in connection with the expansion of capacity (supply of media and machines) and technology at the production sites in Berlin-Oberschöneweide and Berlin-Weißensee.

Research and development costs recognized in expenses amounted to €10,171 thousand in 2018 (previous year: €8,578 thousand).

23. Cost of Materials/Purchased Services

The cost of materials/purchased services break down as follows:

In € thousand	2017	2018	Δ absolute	in %
Raw materials and supplies	60,712	65,822	5,110	8.4
Purchased services	8,602	10,273	1,671	19.4
Total	**69,314**	**76,095**	**6,781**	**9.8**

24. Personnel Expenses

The personnel expenses break down as follows:

In € thousand	2017	2018	Δ absolute	in %
Wages and salaries	39,390	41,323	1,933	4.9
Social security contributions including pension plans	7,196	7,726	530	7.4
Total	**46,586**	**49,049**	**2,463**	**5.3**

Personnel expenses include €311 thousand (previous year: €140 thousand) in expenditure related to granting share options. They also include €12 thousand (previous year: €33 thousand) for defined contribution pension plans.

25. Other Operating Expenses

Miscellaneous other operating expenses comprise the following items:

In € thousand	2017	2018	Δ absolute	in %
Costs for premises	2,755	2,551	-204	-7.4
Maintenance and repairs	1,670	2,225	555	33.2
Sales and marketing expenses	1,636	1,630	-6	-0.4
IT-costs	1,057	1,186	129	12.2
Travel costs	909	1,186	227	30.5
Vehicle costs	1,049	1,037	-12	-1.1
Other expenses	665	945	280	42.1
General administration expenses	334	793	459	137.4
Legal and consultancy fees	1,145	770	-375	-32.8
Goods handling costs	704	717	13	1.8
Insurances	563	662	99	17.6
Recruitment costs	368	660	292	79.3
Other expenditures	613	610	-3	-0.5
Warranty expenses	748	407	-341	-45.6
Training costs	315	381	66	21.0
Work clothing and protective equipment	324	370	46	14.2
Investor relations	421	321	-100	-23.8
Prior-preiod expenses	172	298	126	73.3
R&D expenses	201	273	72	35.8
Communication costs	272	256	-16	-5.9
Annual financial statements	161	216	55	34.2
Other taxes	107	143	36	33.6
Supervisory Board remuneration	126	138	12	9.5
Total	**16,315**	**17,775**	**1,460**	**8.9**

26. Income Tax Expenses

The key components of income tax expenses for fiscal years 2017 and 2018 break down as follows:

In € thousand	2017	2018	Δ absolute	in %
Current income tax	2,987	3,320	333	11.1
Prior-period income tax	-146	-6	140	95.9
Deferred taxes	-63	-447	-384	-609.5
Displayed tax amount	**2,778**	**2,867**	**89**	**3.2**

Deferred taxes of €-447 thousand (previous year: €-63 thousand) result from the reversal of temporary differences.

The reconciliation of income tax expense with the product of the reported profit for the period and the applicable Group tax rate with respect to the fiscal years 2017 and 2018 is as follows:

In € thousand	2017	2018	Δ absolute	in %
Pre-tax income	**7,151**	**10,388**	**3,237**	**45.3**
Tax rate	30%	30%		
Calculated tax expenses/income (expenses negative, income positive)	**2,145**	**3,116**	**971**	**45.2**
Current income tax, prior period	-146	9	155	106.2
Different tax rate in other countries	260	-199	-459	-176.5
Used, non-capitalized loss carry forwards	-3	-112	-109	-3,633.3
Tax loss carry forwards, not capitalized	312	75	-237	-76.0
Additional trade income tax	105	53	-52	-49.5
Tax-free income	-8	0	8	100.0
Non-deductible operating expenses	28	18	-10	-35.7
Others	85	-93	-178	-209.4
Tax expenses	**2,778**	**2,867**	**89**	**3.2**

The deferred tax assets and deferred tax liabilities as at the balance sheet date break down as follows before offsetting:

In € thousand	Dec. 31, 2017	Dec. 31, 2018	Δ absolute	in %
Property, plant and equipment	85	72	-13	-15.3
Inventories elimination of intercompany profits	33	34	1	3.0
Market value of derivatives	24	93	69	287.5
Other provisions	58	54	-4	-6.9
Deferred tax assets	**200**	**253**	**53**	**26.5**

In € thousand	Dec. 31, 2017	Dec. 31, 2018	Δ absolute	in %
Internally generated intangible assets	1,365	1,642	277	20.3
Property, plant and equipment	134	122	-12	-9.0
Other provisions	36	0	-36	-100.0
Acquired customer bases	2,379	1,742	-637	-26.8
Acquired brands	199	199	0	0.0
Deferred tax liabilities	**4,113**	**3,705**	**-408**	**-9.9**

Deferred taxes were offset at the level of the individual companies in the year under review, as they were last year. Income taxes comprise the income taxes paid or payable in the respective countries as well as deferred taxes. The deferred taxes on the market values of derivatives in the context of hedge accounting of €8 thousand (previous year: €16 thousand) as well as on actuarial gains and losses on pension provisions of €5 thousand (previous year: €2 thousand) relate to deferred taxes recognized outside the net profit for the period. Income taxes for 2017 and 2018 include corporation tax, trade income tax, solidarity surcharge and the corresponding foreign taxes. In the Federal Republic of Germany, corporation tax on distributed and undistributed profits is 15%. A solidarity surcharge is levied at a rate of 5.5% on the corporation tax. The trade income tax was calculated on the basis of the assessment rate applied by the relevant municipal authority at 11.55% and 14.35%. Deferred taxes on loss carryforwards at foreign consolidated companies were not recognized for prudential reasons. As in the previous year, there are no tax loss carry forwards for German Group companies.

27. Earnings Per Share

In the calculation of the basic earnings per share, the earnings attributable to the bearers of ordinary shares in the parent company are divided by the weighted, average number of ordinary shares outstanding during the year.

In the calculation of the diluted earnings per share, the earnings attributable to the bearers of ordinary shares in the parent company are divided by the weighted, average number of ordinary shares outstanding during the year and by the weighted average number of ordinary shares which would result from the conversion of all potential subscription rights with a dilutive effect for ordinary shares.

The amounts used to calculate basic and diluted earnings per share are shown in the table below:

In € thousand, unless otherwise indicated	2017	2018	Δ absolute	in %
Net profit attributable to shareholders	4,131	7,396	3,265	79.0
Weighted average outstanding shares (undiluted)	10,211	10,217	6	0.1
Earnings per share (undiluted)	**0.40**	**0.72**	**0.32**	**80.0**
Dilutive effect from share options	49	138	89	1.8
Weighted average outstanding shares (diluted)	10,260	10,355	95	0,9
Earnings per share (diluted)	**0.40**	**0.71**	**0.31**	**77.5**

28. Notes to the Cash Flow Statement

In accordance with IAS 7 "Statement of cash flows", First Sensor reports the cash flow from operating activities using the indirect method, in which the profit or loss for the period is adjusted by the effects of non-cash transactions, deferrals of past or future in and outflows from operating activities and items of income or expense in connection with the cash flow from investment or financing activity. Reconciliation is carried out on the basis of pre-tax income. Tax payments are shown in the operating cash flow, interest received as part of cash flow from investing activities, and interest paid as part of cash flow from financing activities. Almost all the cash flow from financing activities is due to payments. Changes in exchange rates or fair values are absolutely insignificant.

Cash and cash equivalents are defined according to the company's cash management. This includes cash and bank balances:

In € thousand	2017	2018	Δ absolute	in %
Cash on hand	20	5	-15	-75.0
Bank balances	25,485	28,529	3,044	11.9
Total	**25,505**	**28,534**	**3,029**	**11.9**

29. Notes to the Statement of Changes in Equity

In 2018, the company made distributions to shareholders of €1,635 thousand (previous year: €0 thousand).

30. Contingent Liabilities and Other Financial Obligations

Court actions and claims arising from disputes that occur in the ordinary course of business could be enforced against the companies in the group. The risks involved are analyzed in the light of the likelihood of their occurrence. Although the outcome of these disputes cannot always be accurately forecast, the Executive Board is of the view that no material obligations will arise from them.

Further financial obligations arise from renting office premises and office equipment, from leases for capital assets, vehicles and technical office equipment, from building leases and from allocations from defined contribution pension plans. The leases have an average term of between 3 and 20 years and, only in the case of building leases, include options to extend and a purchase option. No obligations of any kind were imposed on the lessee at the conclusion of these leases.

The resultant financial obligations break down as follows:

In € thousand	2019	2020 to 2013	As 2024
Rent and lease expenses	1,925	3,520	822
Purchase obligations	10,333	110	0
Long-term building lease	17	68	612
Total	**12,275**	**3,698**	**1,434**

The purchase obligation in 2018 relates to ordered capital assets and inventories.

31. Segment Reporting

The integrated industrial Group, First Sensor, is a provider of sensor solutions for many different sectors. The individual subsidiaries of the Group occupy different positions in the value chain (wafer, component, module, system) for the manufacture of sensor solutions.

The specific requirements of the customer in each case dictate at which step in the value chain the services are called on.

First Sensor operates as a homogeneous company which encompasses the development, production and sale of sensor chips, sensor components, sensors and sensor systems. Sales are monitored by target market (Industrial, Medical, Mobility) and geographically according to the origin of the customers (DACH region, Europe, North America, Asia).

To ensure a consistent focus on markets and customers, First Sensor caters to the three target markets of Industrial, Medical and Mobility business with its sensor products. However, these do not constitute the basis for internal management and internal reporting. Sales break down across these markets as follows:

In € thousand	2017	2018	Δ absolute	in %
Industrial	75,096	80,387	5,291	7.0
Medical	27,943	34,559	6,616	23.7
Mobility	44,461	40,202	-4,259	-9.6
Total	**147,500**	**155,148**	**7,648**	**5.2**

Every month, the results of the parent company and its subsidiaries are measured, processed and then analyzed by the Executive Board. However, the business units do not represent segments within the meaning of IFRS 8.

Non-current assets and investments in non-current assets relate almost exclusively to Germany and only to a small degree to Europe and North America.

Non-current assets in € thousand	Dec. 31, 2017	Dec. 31, 2018	Δ absolute	in %
Germany	84,886	85,236	350	0.4
Rest of Europe	99	78	-21	-21.2
North America	365	567	202	55.3
Total	**85,350**	**85,881**	**531**	**0.6**

Investments in € thousand	2017	2018	Δ absolute	in %
Germany	12,950	9,567	-3,383	-26.1
Rest of Europe	43	3	-40	-93.0
North America	191	229	38	19.9
Total	**13,184**	**9,799**	**-3,385**	**-25.7**

Number of employees (FTE)	Dec. 31, 2017	Dec. 31, 2018	Δ absolute	in %
Germany	739	805	66	8.9
Rest of Europe	34	33	-1	-2.9
North America	25	25	0	0.0
Total	**798**	**863**	**65**	**8.1**

32. Related Party Transactions

Transactions with individuals or companies who may be subject to the influence of First Sensor or who may exert an influence over First Sensor must be disclosed unless such transactions have already been reported in the consolidated financial statements through the inclusion of consolidated companies.

The following transactions were carried out with individuals and companies deemed parties related to First Sensor:

Board

- Dr. Dirk Rothweiler, Weimar (since January 1, 2017)
- Dr. Mathias Gollwitzer, Karlsruhe (since August 10, 2015)
- Dr. Martin U. Schefter, Bonn (until June 16, 2016)

Please refer to the table below for details of remuneration **paid** to members of the Executive Board:

In € thousand	Dr. Martin U. Schefter	Dr. Mathias Gollwitzer		Dr. Dirk Rothweiler	
Position	**CEO**	**CFO**		**CEO**	
Start of employment	June 17, 2013	August 10, 2015		January 1, 2017	
Termination of employment	June 16, 2016				
	2017	**2017**	**2018**	**2017**	**2018**
Fixed remuneration	0	300	312	330	330
Additional benefits	0	17	16	30	20
Total	**0**	**317**	**328**	**360**	**350**
Annual variable remuneration	40	261	131	0	157
Perennial variable remuneration					
SOP 2016/II (ends on Dec. 31, 2019)	0	0	0	0	0
Severance payment	0	0	0	0	0
Compensation	61	0	0	0	0
Total	**101**	**261**	**131**	**0**	**157**
Pension expenses	0	0	0	0	0
Total renumeration	**101**	**578**	**459**	**360**	**507**

The following table shows the remuneration **granted** to members of the Executive Board:

In € thousand	Dr. Martin U. Schefter	Dr. Mathias Gollwitzer		Dr. Dirk Rothweiler	
Position	**CEO**	**CFO**		**CEO**	
Start of employment	June 17, 2013	August 10, 2015		January 1, 2017	
Termination of employment	June 16, 2016				
	2017	**2017**	**2018**	**2017**	**2018**
Fixed remuneration	0	300	312	330	330
Additional benefits	0	17	16	30	20
Total	**0**	**317**	**328**	**360**	**350**
Annual variable remuneration	40	100	108	120	120
Perennial variable remuneration					
SOP 2016/II (ends on Dec. 31, 2019)	0	77	198	0	0
SOP 2017/I (ends on Dec. 31, 2019)	0	0	0	333	633
Severance payment	0	0	0	0	0
Compensation	61	0	0	0	0
Total	**101**	**177**	**306**	**453**	**753**
Pension expenses	0	0	0	0	0
Total renumeration	**101**	**494**	**634**	**813**	**1,103**

The contract concluded with former CEO, Dr. Martin U. Schefter, ended on June 16, 2016. In 2017, the remaining variable remuneration and settlement amount were paid.

Dr. Mathias Gollwitzer assumed the role of CFO on August 10, 2015. He receives fixed annual remuneration of €312 thousand and a variable target component of €108 thousand. In the year under review, 25,000 subscription rights were issued to him under the share option plan SOP 2016/II with an exercise price of €31.32, which valued at €7.91 each in line with the Black-Scholes model. In the event of a change of control, he is entitled to a one-off payment up to €700 thousand if he resigns within one month of the change of control. He will be subject to a non-competition clause for a period of 6 months from the end of his contract of employment for which he will receive a monthly, subsequent compensation of 50% of a twelfth of his fixed salary applicable at the time.

Dr. Dirk Rothweiler assumed the role of CEO on January 1, 2017. He receives fixed annual remuneration of €330 thousand and a variable target component of €120 thousand. In the year under review, subscription rights were issued to him under the share option plan SOP 2017/I with a exercise price of €31.32. These came to a total of 80,000 share options valued at €7.91 each in line with the Black-Scholes model. In the event of a change of control, he is entitled to a one-off payment up to €700 thousand if he resigns within one month of the change of control.

The additional benefits under contracts of executive board members include cash benefits for the private use of company cars, accommodation allowances, allowances for trips home and relocation costs.

The variable remuneration components of executive board contracts are linked to the achievement of specific ratios by the company. 70% of the variable salary is dependent on quantitative targets and 30% on qualitative targets. The qualitative targets are agreed individually between each executive board member and the Supervisory Board.

In the year under review, variable components amounting to €288 thousand (previous year: €301 thousand) were paid out, which are reported under annual variable remuneration. Multi-annual remuneration components have been agreed under share option plans.

No remuneration was paid to former executive board members or directors or to their surviving dependents in the fiscal year. As at December 31, 2018, former executive board members had no subscription rights.

Supervisory Board

Remuneration of the Supervisory Board is regulated by Article 13 of the Articles of Association and determined by the Annual General Meeting. In accordance with the resolution of the Annual General Meeting on May 23, 2014, there was a new regulation for supervisory board remuneration. After the fiscal year has ended, members of the Supervisory Board receive remuneration of €20 thousand for each full year of membership of the Supervisory Board. This increases to €50 thousand for the Chairman and to €30 thousand for the Deputy Chairman. The members of the Supervisory Board are covered by third-party financial loss insurance (D&O insurance) taken out by the company at an appropriate level in the interests of the company. The company pays the premiums for this insurance. No deductible has been agreed.

The company reimburses each member of the Supervisory Board for any reasonable expenses incurred in the performance of their duties for which proof has been provided and for any value-added tax that applies to their remuneration.

Remuneration for the members of the Supervisory Board amounted to €120 thousand in fiscal year 2018 (previous year: €112 thousand). Supervisory Board members do not receive any performance-related remuneration and do not participate in the company's share option plan.

Other related parties

The director of a subsidiary leased an office property to the subsidiary at standard market conditions. He received €96 thousand (previous year: €95 thousand) for this.

No other transactions with other related parties took place in the year under review.

33. Financial Risk Management

Risk management for financial instruments

First Sensor sells its products and services worldwide and purchases materials on an international market, which leads to market risks owing to changes in exchange rates.

The company also finances its operations partly with bank loans, which involve interest rate risks owing to variable interest conditions. The company hedges the interest rate risk. As required, foreign exchange risks are reduced by concluding foreign exchange forward transactions in connection with material purchases.

The company's main financial instruments comprise trade accounts receivable, cash and cash equivalents, promissory note loans, utilized overdraft facilities and bank loans. The aim of these financial liabilities is to finance the company's business operations. The principal risks result from default, liquidity, currency, interest rate and fair value risks. There are no other price risks from financial instruments.

The company has concluded interest rate swaps to hedge against interest rate risks.

Fair value risk

The fair value of the financial assets and financial liabilities is recognized at the amount at which the relevant instrument could be exchanged in a market transaction (excluding forced sale or liquidation) between willing parties.

The methods and assumptions used to calculate fair values are as follows:

- Cash and cash equivalents and current deposits, trade accounts receivables, trade accounts payables and other current liabilities are shown at their carrying amount, owing to their short terms.

- The fair value of unquoted instruments, loans and other financial liabilities, obligations under finance leases and other non-current financial liabilities is estimated by discounting the future cash flow on the basis of interest rates currently available for borrowings on similar terms, credit risks and remaining maturities.

First Sensor enters into derivative financial instruments with various banks with a good credit rating. The interest rate swaps are measured using a valuation technique with input parameters that can be observed on the market. Among the most frequently used measurement methods are forward price and swap models using present values. The models include various variables such as the credit rating of business partners, foreign exchange spot and forward rates and yield curves. Changes to the counterparty default risk had no effects on the assessment of the hedge effectiveness and other financial instruments measured at fair value.

Fair value hierarchy

The Group uses the following hierarchy for each valuation technique to determine and record fair values of financial instruments:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities.
- Level 2: techniques where all input parameters which have a material effect on the recognized fair value are observable, either directly or indirectly.
- Level 3: techniques using input parameters which have a material effect on the recognized fair value and are not based on observable market data.

As at December 31, 2018, First Sensor measured specific liabilities at fair value using the level 2 valuation technique. These liabilities comprise several interest rate swaps to hedge the interest rate risk.

There were no changes in the calculation of fair value during the period under review.

Derivative financial instruments

The First Sensor Group uses interest rate swaps to hedge the exposure to interest rate risk arising from variable rate liabilities and forward foreign exchange transactions to hedge exposure to currency risk. The following table shows the market values:

Interest rate hedging

In € thousand	Maturity	Hedge	Interest rate	Nominal 2017	Nominal 2018	Market value 2017	Market value 2018
Interest rate swap I (3145170UK)	Dec. 31, 2020	3M EURIBOR	3.83 %	626	**418**	-42	**-20**
Interest rate swap II (3467328UK)	Dec. 31, 2020	3M EURIBOR	2.17 %	308	**205**	-12	**-6**
Interest rate swap/interest rate cap (50W8OY5G-N4FRA20170406000000253109305	Dec. 21, 2022	6M EURIBOR + Cap	0.27 %	18,000	**18,000**	-27	**-284**
				18,934	**18,623**	**-81**	**-310**

In 2018, no foreign exchange hedges were concluded.

Currency sensitivity

The domestic subsidiaries usually have trade business in euro. Only a small amount of trade accounts receivables and trade accounts payables were nominated in foreign currencies. Appreciation or depreciation of the euro by 10% compared with the major currencies would have a maximum impact on the profit of €0.4 million (previous year: €0.4 million).

Appreciation or depreciation of the euro by 10% compared with the relevant currencies would decrease or increase the exchange equalization item in equity by a maximum of €0.4 million (previous year: €0.4 million) because financial statements of subsidiaries denominated in foreign currencies are converted using the modified reporting date method.

Interest rate sensitivity

The risk of market interest rate fluctuations to which the Group is exposed results from interest-bearing cash investments and from floating-rate liabilities that are not hedged against interest rate risks with interest rate hedging instruments.

Since the vast majority of First Sensor's floating rate liabilities are hedged against interest rate risks via interest rate swaps, the Group is exposed to interest rate risk only to a minor degree. A change in interest rates of 100 basis points would have a maximum impact on net profit of €0.1 million (previous year: €0.1 million).

Direct effects on equity from interest rate hedging instruments used in hedge accounting would amount to approximately €+/-0.1 million if the interest rate were to increase by 15 basis points or were to decrease by 10 basis points.

Liquidity risk

The Group monitors liquidity using an automated planning tool. This tool assesses cash and cash equivalents on a daily basis, the terms of financial investments and financial assets (e.g. receivables, other financial assets) together with expected cash flow from business activities.

As at December 31, 2018, the Group's financial liabilities show the following maturities. All data are based on contractual, non-discounted payment obligations.

In € thousand	Due within 1 year	Due between 1 to 5 years	Due in over 5 years	Dec. 31, 2018 Total
Interest-bearing loans	3,891	37,611	6,500	**48,002**
Trade accounts payables	12,558	0	0	**12,558**
Other liabilities	7,994	0	0	**7,994**
Total	**24,443**	**37,611**	**6,500**	**68,554**

In € thousand	Due within 1 year	Due between 1 to 5 years	Due in over 5 years	Dec. 31, 2018 Total
Interest-bearing loans	16,115	32,184	0	**48,299**
Trade accounts payables	7,885	0	0	**7,885**
Other liabilities	10,692	0	0	**10,692**
Total	**34,692**	**32,184**	**0**	**66,876**

Capital management

The primary aim of capital management at the company is to ensure a high credit rating and an equity ratio that is appropriate to the risk position and strategy, which helps to support the business and maximize shareholder value. Minimum equity ratios are stipulated as conditions in some loan agreements. The equity ratio also affects the credit rating and represents one of several factors determining the applicable interest rate. The credit rating is also a deciding factor for customers when deciding which company to award a contract to.

The Group takes into account the equity ratio to manage its capital.

In € thousand	Dec. 31, 2017	Dec. 31, 2018	Δ absolute	in %
Shareholders' equity	81,899	88,767	6,868	8.4
Total assets	159,577	168,383	8,806	5.5
Equity ratio in %	51.3	52.7	1.4	2.7

The company fulfilled the key ratios (covenants) required under loan agreements in the year under review.

34. Further Notes in Line With HGB Regulations

The following notes contain additional information constituting mandatory components of the Notes to the Financial Statement as defined in the German Commercial Code (HGB).

Board

Name	Position on the Board
Dr. Dirk Rothweiler	CEO (since January 1, 2017)
Dr. Mathias Gollwitzer	CFO (Ssince August 10, 2015)

As CEO, Dr. Dirk Rothweiler is responsible for business policy guidelines, company law, corporate strategy, corporate communication, M&A, investments, subsidiaries, sales and marketing, research and development, product development, production, market analysis and market development, as well as Supervisory Board concerns.

Dr. Mathias Gollwitzer is appointed Chief Financial Officer. He is responsible for finance, investor relations, planning, controlling, reporting, human resources, law, IT, purchasing, Group risk management, internal control and compliance.

Supervisory Board

Name/ job title	Position on the Board	Membership of statutory supervisory board	Membership of comparable domestic or foreign supervisory committees
Prof. Dr. Alfred Gossner President Munich Business School	Chairman of the Supervisory Board since September 11, 2012 Re-election on May 24, 2017	Bayern Innovativ GmbH, Nürnberg, since 2003 until 2/2018	None
Götz Gollan Board member at equinet Bank AG, Frankfurt am Main (until August 31, 2018) Board member at Nanogate SE, Quierschied-Göttelborn (since September 1, 2018)	Deputy Chairman of the Supervisory Board since September 11, 2012 (member since June 17, 2010)	None	None
Marc de Jong CEO LM Wind Power A/S, Kolding, Denmark CEO InnoMarket B.V. Eindhoven, Netherlands	Member of the Supervisory Board since May 23, 2014	None	Technical University Eindhoven, Netherlands (Member of the Supervisory Board)
Prof. Dr. Christoph Kutter Director to the Fraunhofer EMFT, Munich	Member of the Supervisory Board since May 24, 2017	None	VDI/VDE Innovation+-Technik GmbH, Berlin (Member of the Supervisory Board)

Disclosure in accordance with Article 160 (1) 8 AktG

According to the voting rights notifications submitted to us, the following individuals/companies held more than 3% of the shares in First Sensor AG as at December 31, 2018. This information may deviate from the current voting rights held if a reporting threshold has not been reached since the last notification, meaning that the person or institution concerned was not required to submit a voting rights notification:

Individual/ company	Domicile	Date of notification	Date of threshold touched	Date of publication	Threshold value reached, exceeded or fallen below	Percentage of shares at time of notification		Allocation according to
						%	Voting rights	
DPE Deutsche Private Equity B.V. Aktionär: FS Technology Holding S.à.r.l.	Amsterdam Netherlands	Aug. 14, 2018	Nov. 26, 2015	Aug. 14, 2018	3%, 5%, 10%, 15%, 20%, 25% and 30% exceeded	36.02	3,659,419	Article 34 WpHG
Teslin Capital Management BV Fonds: Midlin NV	Maarsbergen, Netherlands	Jun. 05, 2018	Mar. 21, 2016	June 06, 2018	3%, 5% exceeded	5.03	511,548	Article 34 WpHG
Teslin Capital Management BV Fonds: Gerlin NV	Maarsbergen Netherlands	Jun. 25, 2018	Jun. 21, 2018	Jun. 28, 2018	3%, 5% exceeded	5.01	512,278	Article 34 WpHG

Employees

The average number of employees is stated as full-time equivalents (FTE):

Full time equivalent	2017	2018	Δ absolute	in %
Germany	729	777	48	6.6
Europe	34	33	-1	-2.5
North America	24	25	1	2.7
Others	0	0	0	0
Total	**787**	**835**	**48**	**6.1**

Additionally the average number of apprentices was 28 (previous year: 31).

Fees of the auditor

In € thousand	2018
Annual audit	131
Other advisory services	16
Total	**147**

The audit fees for the financial statements comprise the audit of First Sensor AG's separate financial statements pursuant to HGB, First Sensor's consolidated financial statements pursuant to IFRS and the financial statements of major subsidiaries of First Sensor pursuant to HGB. The auditor audits the separate financial statements of the company and the consolidated financial statements for all audit periods starting from 2013.

Waiver of disclosure pursuant to section 264 (3) HGB

The following domestic subsidiaries with the legal status of a limited liability corporation have met the conditions for claiming exemption under section 264 (3) of the German Commercial Code (HGB) and have thus exercised the option not to publish annual financial statements:

- First Sensor Lewicki GmbH, Oberdischingen
- First Sensor Microelectronic Packaging GmbH, Dresden

Payout block

Internally created intangible assets in the amount of €2,482 thousand (previous year: €2,375 thousand) were reported in the balance sheet of the individual financial statements of First Sensor AG. There were also deferred taxes of €744 thousand (previous year: €736 thousand). This led to €1,708 thousand (previous year: €1,639 thousand) that is subject to the payout block.

The difference between the recognition of pension liabilities with an average market interest rate of the last ten years (3.21%) and the last seven years (2.32%) is €15 thousand (previous year: €15 thousand) and is also subject to the payout block in accordance with section 253 (6) sentence 2 HGB.

35. Corporate Governance

The company has issued a declaration of compliance pursuant to section 161 AktG (German Stock Corporation Act) and this is permanently available on the company's website.

36. Supplementary Report

The company is not aware of other key events following the end of the fiscal year, which will affect the net assets, financial position and results of operations.

Berlin, March 11, 2019

First Sensor AG

Dr. Dirk Rothweiler	Dr. Mathias Gollwitzer
CEO	CFO