



Annual Report
of OSRAM Licht Group
Fiscal Year 2019

OSRAM

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About this Report

This annual report contains the combined management report and the consolidated financial statements of OSRAM Licht AG and its subsidiaries ('OSRAM Licht Group,' 'OSRAM,' or 'we') for the year ended September 30, 2019, as well as further information. It complies with the annual financial reporting requirements of section 114 of the Wertpapierhandelsgesetz (WpHG—German Securities Trading Act). The combined management report includes the management report for OSRAM Licht AG in addition to the information on the OSRAM Licht Group. The combined management report also contains the [C.4.2 Remuneration Report](#) and the [C.4.3 Corporate Governance Declaration](#).

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Since the start of fiscal year 2019, the segment reporting of the OSRAM Licht Group has been split into three reportable segments—Opto Semiconductors (OS), Automotive (AM), and Digital (DI)—plus Reconciliation to consolidated financial statements. In this financial report, OSRAM also reports the North American luminaire service business, which was sold in the second quarter of fiscal year 2019, and the European luminaires business as a discontinued operation. The prior-year figures are presented on a comparable basis.

The combined management report—especially the [A.4.1 Report on Expected Developments](#)—contains forward-looking statements that are based on current management estimates regarding future developments. These statements do not constitute a guarantee that these expectations will prove correct. The future performance of the OSRAM Licht Group depends on numerous risks and uncertainties, many aspects of which are outside OSRAM's sphere of influence. In particular, these include, but are not limited to, the circumstances described in [A.4.2 Report on Risks and Opportunities](#). As a result, material variances, both negative and positive, could arise between OSRAM's actual results, profits, and performance and those forecast in our forward-looking statements. OSRAM does not plan and does not assume any separate obligation to update the forward-looking statements over and above regulatory requirements.

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OSRAM's consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) and their interpretations issued by the International Accounting Standards Board (IASB), as adopted by the European Union (EU). Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft has audited the consolidated financial statements and the combined management report. The unqualified audit opinion can be found in [C Statements and Further Information](#).

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Fiscal year 2019 for the OSRAM Licht Group and OSRAM Licht AG began on October 1, 2018, and ended on September 30, 2019. This document is a convenience translation of the original German-language document.

Due to rounding, numbers presented throughout this report may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.

Unless otherwise stated, the number of employees is given in thousands of full-time equivalents (FTEs) as of the reporting date.

Cross-references in the text

> Internal cross-reference (within the document)

>> External cross-reference (to another document or via the Internet)

Combined¹⁾ Management Report



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1) The combined management report includes the management report of OSRAM Licht AG in addition to the information on the OSRAM Licht Group.

A.1

Business and Environment

A.1.1 Business Activities and Structure of OSRAM Licht Group

A.1.1.1 Business Model

Over its history dating back more than 110 years, OSRAM has become one of the world's leading lighting manufacturers. We are currently undergoing a transformation from a lighting manufacturer into a high-tech photonics company. In addition to lighting, we are increasing our focus on sensors, visualization, and light-based treatments. Our mainly semiconductor-based products find wide-ranging use in our specialist fields of transport, safety, connectivity, and health and well-being. Sample applications range from virtual reality, autonomous driving, and high-tech smartphones to intelligent and connected lighting solutions in buildings and the indoor cultivation of plants.

In fiscal year 2019, the operating activities covered by our business model were essentially organized into three business units: Opto Semiconductors, Automotive, and Digital. These three business units together with the Group headquarters constituted the OSRAM Licht Group (continuing operations) in the past fiscal year.

In its continuing operations, OSRAM employed a total of around 23.5 thousand people as of September 30, 2019 (previous year: 26.2 thousand).

Opto Semiconductors (OS)

The OS Business Unit is one of the world's leading providers of opto semiconductors, which are crucial elements in lighting, visualization, and sensor technology. OS offers a wide range of LEDs in the low-power, mid-power, high-power, and ultra-high-power classes that are used in general lighting, automotive, consumer, and industrial applications as well as infrared, laser, and optical sensors. The main markets for these components are the automotive sector, smartphones, wearables, general lighting, lighting for plants, industrial lighting, and projection.

OS and Nichia have been the leaders in the highly competitive opto semiconductor market for many years. In addition to Lumileds, the relevant competitors in this segment primarily come from Asia and include companies such as Samsung, Sanan, Everlight, LG Innotek, Seoul Semiconductor, and MLS. Our APAC reporting region was the largest regional market for sales of OS products, followed by EMEA.

OS employed around 11.4 thousand people as of September 30, 2019 (previous year: 13.3 thousand).

Automotive (AM)

The AM Business Unit develops and produces lamps, light modules, and sensors, which it sells to original equipment manufacturers and their suppliers in the automotive industry and to the spare parts market (after-market). This includes products based on traditional lighting technologies as well as LED-based solutions. The LED and laser technology-based automotive system (or module) original equipment manufacturer business is operated by our subsidiary OSRAM CONTINENTAL. The company focuses on digitalization in the automotive industry and its product portfolio includes customer-specific system solutions that combine the latest light and electronic technologies.

Up to the beginning of the past fiscal year, the automotive and other areas of business comprised the Specialty Lighting Business Unit. As part of a reorganization and the subsequent renaming of the business unit as AM, these other areas of business have been incorporated into the Digital Business Unit (and are described there).

The automotive lighting market has only a small number of competitors. AM is the global market leader for automotive lighting; its main competitors are Lumileds, General Electric, and Nichia.

AM employed around 5.5 thousand people as of September 30, 2019 (previous year: 5.2 thousand).

Digital (DI)

The DI Business Unit was established at the start of the past fiscal year. It handles all of OSRAM's business activities that will benefit the most from the growing use of digital technologies:

- The business of the former DS Business Unit in traditional electronic ballast and LED drivers, LED modules, light engines (a combination of an LED module and the related electronic control gear), and light management systems (including sensor-based and software-based value-adding services, such as indoor location solutions).
- The business of the former Specialty Lighting Business Unit in specialty lamps and lighting systems for stages, cinemas, and studios and in smart LED-based plant cultivation systems (smart farming), as well as lighting solutions for medical and industrial applications, such as high-intensity UV lamps and LED clothing.
- OSRAM's remaining business of the former Lighting Solutions Business Unit in complete lighting solutions for smart, networked, and mainly architectural internal and external lighting (Traxon), as well as professional interior lighting applications.

The main competitors for LED modules, LED light engines, and electronic ballasts are Signify, Zumtobel, and Asian manufacturers such as Inventronics, LG, Meanwell, and Delta Electronics. A large number of manufacturers also specialize in particular products. OSRAM and our competitor Ushio are the market leaders in specialty lighting for stages, cinemas, and studios. The largest share of revenue from DI products was generated in our Americas reporting region in the past fiscal year.

DI employed around 4.4 thousand people as of September 30, 2019 (previous year: 5.3 thousand).

The former Lighting Solutions Business Unit was dissolved at the start of the past fiscal year. As described above, Traxon's light solutions business was incorporated into the new DI Business Unit. The European luminaires business (Siteco) and the North American luminaire service business are reported as a discontinued operation.

A.1.1.2 Research and Development (R&D)

OSRAM continued to push ahead with its transformation from a lighting manufacturer into a leading high-tech photonics company with a firm focus on fast-growing high-tech markets. Global trends and challenges, such as the progressive automation of personal transport, the growing demand for digital services in increasingly networked systems, and the combined demographic issues of a growing and, in western societies, aging population, are opening up opportunities for light-based applications that go far beyond lighting for people. Intelligent sensors and digital technologies are building blocks of the systems of the future that enable these social issues to be tackled. OSRAM is playing an active part in this regard, for example in the development of new optical sensors and in the field of intelligent building services (smart buildings).

Structures and Processes

Strategic matters are closely coordinated between the business units and Managing Board at monthly board meetings and, at planning level, in an annual technology review. A network of experts from all business units has also been set up, ensuring that their specialist knowledge can be put to use across the Company. The biennial Orange Award was again presented in the past fiscal year. It recognizes the achievements of internal teams in a range of categories, including exceptional innovation. At the same time, OSRAM joined forces with renowned external partners to launch the OSRAM IoT Awards (Internet of Things). The awards recognize innovative products and innovators in the field of IoT and provide a platform for dialog and collaboration across company and organizational boundaries.

OSRAM's venture capital arm, Fluxunit, continued the activities it had begun in previous years. Fluxunit makes targeted investments in young start-ups that may have the potential to complement OSRAM's future business in the long term. The investment portfolio currently comprises eight companies that develop products in areas in which OSRAM operates, and two further investments in venture capital funds. During the fiscal year, the portfolio was reshaped following investments in a new start-up (Recogni, Inc., Cupertino, California, U.S.A.).

To maintain our strong technological position going forward, we protect our innovations with patents and other industrial property rights as early as possible. The updating of the patent strategy, which takes into account R&D, business development, and patent aspects in a multidimensional approach, that had begun in the previous year was successfully continued in 2019 and the patent portfolio streamlined. Strategic patent cross-licensing agreements and other agreements on the use of patents with other players in the lighting industry further help to secure our leading position in the lighting market.

We take an open approach to innovation, collaborating with various research institutions, universities, and other companies worldwide. Some of this cooperation takes the form of research programs supported by the European Commission and the Bundesministerium für Bildung und Forschung (BMBF—German Federal Ministry of Education and Research). In addition, our active membership of various academic governing bodies provides us with strong connections in the university research community and with leading players in the lighting technology business.

Objectives and Results

To enhance our service portfolio, IoT applications for facilities management and automated plant cultivation in greenhouses were jointly developed and tested with pilot customers. These applications enable OSRAM to offer comprehensive analysis of lighting- and building-related data, creating added value for customers that goes far beyond that offered by intelligent light control. It has many possible applications, ranging from occupancy management for rooms and workplaces to optimized use of space in office blocks and improved plant cultivation based on customized lighting and ambient conditions.

The business units launched a wealth of innovative products on the market. Here are just a few examples:

- The OS Business Unit launched the first LEDs using quantum dot phosphors on the market. Quantum dot phosphors emit light with a narrower spectral range than conventional phosphors, providing greater efficiency and better quality of light.
- The second generation of blue multi-mode laser diodes provide the same light output in a smaller housing, making it possible to produce more compact laser headlights (OS and AM Business Units). This gives vehicle manufacturers more freedom in their designs and better performance values.
- XTYLOS, the first laser-based moving head light for the entertainment industry, is made by Clay Paky (DI Business Unit) and enables entirely new light effects. For the first time, a focused and far-reaching beam can project the entire color spectrum without any loss of brightness. The luminaire was very well received by light designers and customers at the Prolight + Sound trade fair.
- In the smart building segment, the DI Business Unit has significantly enhanced its SiteWorx application. Industrial customers can now use the platform to monitor and measure the state of their facilities and consumption levels, for example in terms of water, gas, electricity, compressed air, and process heat. This allows customers to implement and keep an eye on their sustainability and efficiency goals.

R&D Figures

		Fiscal year	
		2019	2018
Employees – R&D	in thousands FTE	2.8	2.7
R&D expenses	in € million	418	400
R&D intensity ¹⁾		12.1%	10.6%
Patents and patent applications ²⁾		approx. 15,100	approx. 17,800
Patent families ²⁾		approx. 5,800	approx. 6,400

1) Excluding restructuring expenses, the R&D intensity KPI was 11.3% (previous year: 10.2%).

2) The figures for 2018 still include the patents that were transferred as part of the sale to Siteco Beleuchtungstechnik GmbH, Traunreut, Germany.

A.1.1.3 Organization and Reporting Structure

The OSRAM Licht Group comprises the parent company OSRAM Licht AG, which is headquartered in Munich, Germany, and is an Aktiengesellschaft (stock corporation) in accordance with German law, and 103 subsidiaries and 22 investees > [Note 38 | List of Equity Investments of the OSRAM Licht Group in Accordance with Section 313 of the HGB in B.6 Notes to the Consolidated Financial Statements.](#)

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The OSRAM Managing Board is the body with overall responsibility for the management of the business in accordance with the *Aktiengesetz* (AktG—German Stock Corporation Act). At the level below this, the management of the three business units described above has overall responsibility for their respective areas; this covers everything from product development through to product sales, and includes profit and loss responsibility.

For external financial reporting purposes, OSRAM's reporting structure was split into three reportable segments, OS, AM, and DI, plus *Reconciliation to consolidated financial statements* in fiscal year 2019. The former Lighting Solutions & Systems (LSS) reporting segment was dissolved as part of the organizational changes. *Reconciliation to consolidated financial statements* firstly includes *Corporate items and pensions*, which the management does not consider to be indicative of the segments' performance. Secondly, the reconciliation is impacted by consolidation processes, the results of our Corporate Treasury, and other accounting items > [A.2.3.6 Reconciliation to the Consolidated Financial Statements.](#)

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OSRAM markets its products in more than 120 countries and has 26 production facilities worldwide. The regional breakdown used for reporting purposes is EMEA (Europa, Russia, Middle East, and Africa), APAC (Asia, Australia, and the Pacific region), and the Americas (the U.S.A., Canada, Mexico, and South America). The key locations in EMEA are Munich (Group headquarters), Regensburg, Herbrechtingen (all Germany), Nové Zámky (Slovakia), Treviso (Italy), and Plovdiv (Bulgaria). Our key locations in the Americas and APAC regions are Hillsboro in New Hampshire and Wilmington in Massachusetts (both U.S.A.), Monterrey (Mexico), Wuxi (China), and Penang and Kulim (both Malaysia).

Independently of the reporting segments and regions, we subdivide our business at Group level into two categories based on technologies: the LED-based business (or 'LED business' for short) and the traditional business. Our definition of the LED business includes LED products and components, combinations of LEDs, lasers and sensors, and drivers, as well as light management systems for LED lighting solutions and associated services.

A.1.1.4 Legal and Sector-specific Conditions

In addition to the general legal requirements, statutory and regulatory requirements relating to technical regulations and standards are the main provisions of relevance to the OSRAM Licht Group. The last few years have been marked by comprehensive regulatory change around the world. This is a continuing trend.

Sometimes working in collaboration with different partners, such as the Lighting Europe trade association, OSRAM keeps a close eye on new industry-specific regulations as well as general changes to legislation affecting our business across all regions. Before new regulations are introduced, for example, we help with the definition of technical standards or contribute our expertise in an advisory capacity. In doing so, we work to ensure—drawing on our experience in the lighting market, in particular—that new requirements address users' needs but can still be feasibly implemented by the industry.

New regulations mean that we are constantly adapting the affected portfolio of products and services. Moreover, we often play a leading role in the lighting industry due to the improvements that we make to the technical design of our portfolios at an early stage.

The European Commission has been working on further tightening the Energy Efficiency Regulation since the autumn of 2015. This includes new energy efficiency requirements for all types of light source and separate electronic ballast in the general lighting sector. In the past fiscal year, the EU member states and the European Commission agreed to comprehensive new rules within the framework of the European Ecodesign Directive. These will particularly affect products in our DI Business Unit, and to a lesser extent in our OS Business Unit. The new rules are expected to be signed off before the end of calendar year 2019 and come into force on September 1, 2021. Over the course of 2021, new energy consumption labelling is also to be introduced, including for light sources, in which the current energy efficiency classes A++ to E are to be replaced by classes A to G.

In the past, new regulatory requirements for the global lighting market have very often been driven or triggered by the introduction of legislation in Europe. The European Commission is currently working on these key areas:

- Since the start of calendar year 2018, the European Commission has been focusing heavily on the model of the circular economy as a pillar of the 2050 climate strategy. Specific issues being addressed include extending the useful life of products by making them easier to repair, reuse, and recycle, reducing the overall volume of waste, and generally increasing recycling rates. As the idea of strengthening the circular economy gains traction, the public is becoming even more aware of regulations on avoiding or restricting hazardous substances, such as the European Restriction of Hazardous Substances Directive (RoHS) and the European regulation concerning the registration, evaluation, authorization, and restriction of chemicals (REACH). Issues of particular importance to OSRAM include the use of cadmium in quantum-dot LEDs and mercury in high-pressure discharge lamps. In this context, Europe's trade association for the lighting industry negotiates regularly with the European Commission, which exemptions should still be granted in the coming years despite technological advances. These regulations particularly affect products in our OS and DI Business Units. Other regions of the world, e.g., California, often use the lighting regulations successfully introduced in Europe as the basis for their own regulations. As a result, we expect to see expansion of the existing EU regulations.
- The increasing digitalization of light, along with the Industry 4.0, IoT, and sensor trends, are gaining more and more momentum. This is creating whole new challenges in the regulatory environment. On the one hand, digitalization is opening up opportunities to develop applications and products that will present new business opportunities for OSRAM. These range from primarily intelligent lighting solutions for smart mobility, smart cities, and smart buildings to solutions such as human-centric lighting for improving people's quality of life and specialty LED lighting for plant cultivation (smart farming). On the other hand, however, the requirements that the providers in the lighting market need to meet will also increase significantly, especially because of the regulatory framework e.g., relating to technical standards and with regard to consumer protection and data security.

A.1.2 Performance Management

OSRAM's Managing Board uses a variety of financial and non-financial performance indicators to manage the Company. The most important of these performance indicators (key performance indicators) are generally determined at the level of the OSRAM Licht Group as a whole. They are related to our strategic goals and are designed to help ensure these goals are achieved at an operational level. The key performance indicators are also a measure of target attainment for managers and thus can influence the remuneration of OSRAM's management, in particular the remuneration of the Managing Board [▶ C.4.2 Remuneration Report](#). In addition, regular reports on the key performance indicators are presented to the members of the Managing Board, who then report to the Supervisory Board. These indicators are used primarily in OSRAM's external financial reporting but are also a useful general vehicle for communicating with all stakeholders.

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The key financial performance indicators enable OSRAM's management to optimize global business development and to find the balance between the interdependent factors of growth, earnings, and liquidity so as to achieve the goal of sustainable profitable growth. We believe that the latter is a precondition for increasing OSRAM's enterprise value over the long term.

Some of the financial performance indicators described in more detail below are 'alternative performance measures' (APMs), i.e., key figures that are not defined or listed in IFRS (and are therefore also known as non-IFRS financial measures). These APMs supplement the figures calculated in accordance with IFRS, rather than being an alternative to them. We believe that our APMs offer additional and useful information for investors that will help them to assess the business performance of the OSRAM Licht Group. Other companies that report similarly named financial measures may calculate these differently [▶ A.2.6 Reconciliation of Performance Indicators](#).

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The analysis of our performance indicators focuses primarily on continuing operations.

Growth

OSRAM measures the growth of its business volume using both nominal and comparable revenue growth figures. To determine comparable revenue growth, the percentage change in revenue from period to period is adjusted for currency-translation and portfolio effects [▶ A.2.6 Reconciliation of Performance Indicators](#). Our strategy is to grow profitably and the main performance indicator we use to measure this is the comparable revenue growth figure, since this presents the Company's operating performance without any distortion caused by translating revenue into euros or by including acquisitions and divestments. We use the

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comparable revenue growth key performance indicator at both Group and segment levels. It is also one of the targets used in determining the variable remuneration of the Managing Board.

Earnings

The primary metric used to measure our operating profit is the adjusted EBITDA margin, which is calculated by dividing adjusted EBITDA by revenue. Reported EBITDA is adjusted for special items—particularly transformation costs—according to the Managing Board’s assessment. We use EBITDA as the starting point because it is widely used in OSRAM’s competitive environment to measure a company’s operating performance without the effects of depreciation (on property, plant, and equipment), amortization (on intangible assets), and impairment (including in connection with acquisitions). We also evaluate the operating performance of the Group and our segments on this basis. Moreover, the adjusted EBITDA margin is one of the targets used in determining the variable remuneration of the Managing Board. This adjusted performance indicator is particularly important for management in periods in which earnings are impacted by a high level of special items. We have recognized special items—in some cases, at high levels—in recent fiscal years due to the disruptive development of the lighting market, the restructuring that has become necessary as a result, and the associated transformation costs.

For further information on the calculation of EBITDA, adjusted EBITDA, and the corresponding EBITDA margins, and for the reconciliation to net income (loss), see [▶ A.2.6 Reconciliation of Performance Indicators](#).

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Liquidity

OSRAM uses free cash flow as a liquidity indicator. This is defined as net cash provided by (used in) operating activities less additions to intangible assets and property, plant, and equipment. For us, free cash flow is an indicator for evaluating our ability to generate cash surpluses from our operating activities. In addition, this indicator shows the extent to which we are able to meet both recurring and specific cash outflows that are not included in the figure (such as payments for acquisitions, dividends, or debt servicing). We also evaluate our segments’ cash generation performance on the basis of free cash flow. Moreover, free cash flow is one of the targets used in determining the variable remuneration of the Managing Board. For information on the calculation of this performance indicator, see [▶ A.2.6 Reconciliation of Performance Indicators](#).

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Additional Performance Indicators

Fundamentally, we aim for a balanced capital structure, based on the usual criteria and indicators used for an investment grade rating, so as to ensure sufficient flexibility in our financing and favorable terms. The performance indicator used to assess our capital structure is calculated by dividing net debt/net liquidity by EBITDA [▶ A.2.4.3 Financing and Liquidity Analysis](#).

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The capital commitment period (days outstanding) for net operating working capital is an indicator that shows how efficiently working capital is used to generate revenue. For information on the calculation of this performance indicator, see [▶ A.2.6 Reconciliation of Performance Indicators](#).

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A.2

Business Performance in 2019

A.2.1 Overall Assessment by the Managing Board of the Current Economic Situation

Fiscal year 2019 was a difficult year for OSRAM. In our forecast at the start of the fiscal year, we stated that market conditions were expected to be challenging. However, our forecast also factored in the positive indicators that existed at that time. Early on, we stated that these would possibly prove unsustainable and, consequently, revised our targets for the fiscal year. What remains is a business performance that was primarily characterized by the negative trends in our operating environment—in the economy as a whole and, above all, in our areas of core business. Our business volume decreased, reflecting the contraction of the markets. Revenue amounted to around €3.5 billion, a year-on-year decrease of 13.1% on a comparable basis. Adjusted EBITDA of €307 million meant that the corresponding EBITDA margin fell sharply to 8.9%. There were also challenges—caused in part by the current market environment—that resulted in impairment losses in our business portfolio, particularly at OSRAM CONTINENTAL. Overall, this led to a loss from our continuing operations and, consequently, a negative figure for diluted earnings per share of €2.93. Despite this, we achieved a sharp improvement in our free cash flow, which was in positive territory at €17 million. So although the past fiscal year was undoubtedly a dark one, there was also some light. In operational terms, we supplemented the performance improvement programs begun in the previous fiscal year with further-reaching structural measures in order to counteract the deteriorating conditions. The programs are making a difference, and we were ahead of our savings targets for fiscal year 2019. In strategic terms, we continued to successfully forge ahead with our transformation into a high-tech photonics company by making changes to our organizational structure and selling both our luminaires business and the luminaire service business. And, not least, the takeover battle for our Company in fiscal year 2019 showed that we are pursuing the right strategy. Irrespective of the outcome of the ongoing acquisition process, we will continue to put all our efforts into pursuing this strategy because we firmly believe that transforming ourselves into a high-tech photonics company is the only way to return to growth in the medium and long term. Given our equity ratio, which is still high at 48%, a balanced asset structure, and a sound financial position, we see ourselves as well equipped to achieve further growth, regardless of the currently gloomy economic situation.

A.2.1.1 OSRAM's Business Performance (continuing operations)

In fiscal year 2019, the course of business in the OSRAM Licht Group was adversely affected by the rapidly deteriorating conditions in our core markets of automotive, general lighting, and mobile devices. Market-specific circumstances took their toll on these segments of the lighting market. These were compounded by the increasing slowdown in the global economy as a whole, which was attributable to factors such as ongoing trade conflicts and geopolitical uncertainties, and by China's faltering growth. Our business also continued to be heavily affected by the impact of changes in the lighting market, i.e., the shift from traditional lighting products to LED-based components and solutions. Due to the resulting restructuring, OSRAM was faced with moderately higher transformation costs in fiscal year 2019 than in fiscal year 2018. These included costs incurred in connection with performance programs that we launched in response to the deterioration in our market environment. In contrast to fiscal year 2018, exchange rate movements were a relatively insignificant factor in our revenue and earnings performance in the past fiscal year [▶ A.2.2.1 Macroeconomic Developments](#).

The revenue of around €3.5 billion reported by OSRAM for fiscal year 2019 was notably lower than in the prior year. Excluding currency influences and portfolio effects, i.e., on a comparable basis, the reduction was 13.1% (previous year: growth of 2.6%). This included changes in sales prices, particularly at OS, in the mid-single-digit percentage range, which negatively impacted revenue. The proportion of revenue attributable to LED-based products and solutions rose modestly, reaching 69% in fiscal year 2019 (previous year: 68%). All of OSRAM's segments registered a drop in revenue on a comparable basis. OS and AM saw the largest decreases, with both segments reporting a significant fall. There was a clear reduction in DI's revenue. As a result of these clear falls in revenue, OSRAM's EBITDA adjusted for special items went down sharply year on year, from €622 million to €307 million; reported EBITDA fell even more sharply owing to the increase in special items, particularly transformation costs in connection with restructuring. Earnings at both OS and AM

decreased sharply (on an adjusted basis); DI's earnings dropped into negative territory. OSRAM's adjusted EBITDA margin amounted to 8.9%, which was a sharp reduction compared with the previous year's margin of 16.4%.

This trend was reflected in *Income (loss) OSRAM (continuing operations)*, which decreased from income of €188 million in the previous year to a loss of €343 million. The main reason for this was the €349 million reduction in gross profit. As the volume of business decreased while the cost of goods sold and services rendered remained high, the gross profit margin (gross profit as a percentage of revenue) declined by a substantial 700 basis points (bps). This was mainly caused by negative volume effects and the loss of economies of scale, primarily related to the underutilization of capacity at production facilities, reflecting the high operating leverage of our vertically integrated business units with their high fixed costs. Moreover, impairment losses totaling €210 million were recognized on goodwill, particularly in connection with OSRAM CONTINENTAL. In line with *Income (loss) OSRAM (continuing operations)*, diluted earnings per share from continuing operations fell sharply to €–2.93 [➤ A.2.3 Results of Operations](#).

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The loss also impacted on free cash flow. Nevertheless, OSRAM's free cash flow (continuing operations) improved sharply to reach positive territory at €17 million (previous year: €–118 million). This was predominantly because of a decrease in net operating working capital and a fall in capital expenditure. Our net debt increased to €350 million as of September 30, 2019 (previous year: €51 million). This was due to free cash flow and, in particular, the dividend payment, the purchase of treasury shares, and payments for our acquisitions and equity investments [➤ A.2.4 Financial Position](#). The loss, the distribution of a dividend, and the share buyback meant that equity decreased significantly, although the equity ratio was still 48% [➤ A.2.5 Net Assets](#).

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A.2.1.2 Comparison Between the Actual and Forecast Course of Business

Target Achievement 2019¹⁾

	Initial position ²⁾ Fiscal year 2018	Expected developments Fiscal year 2019	Target achievement Fiscal year 2019	Evaluation
Comparable revenue growth (adjusted for currency translation and portfolio effects)	moderate 2.6%	Flat to moderate (0% to 3%)		Outlook not achieved and updated
		On March 28, 2019: The Managing Board of OSRAM Licht AG decided to adjust the forecast for fiscal year 2019 and expects now a comparable revenue decline between 11% and 14%.	–13.1%	Outlook achieved
Adjusted EBITDA margin (adjusted for special items—mainly transformation costs)	16.4%	12%–14%		Outlook not achieved and updated
		On March 28, 2019: The Managing Board of OSRAM Licht AG decided to adjust the forecast for fiscal year 2019 and expects now an adjusted EBITDA margin between 8% and 10%.	8.9%	Outlook achieved
Free cash flow	€–118 million	Positive Free Cash Flow in a mid double-digit million-€-range		Outlook not achieved and updated
		On March 28, 2019: The Managing Board of OSRAM Licht AG decided to adjust the forecast for fiscal year 2019 and expects now a negative free cash flow between €50 million and €150 million.	€17 million	Outlook overachieved

1) The information presented in the table relates to OSRAM (continuing operations).

2) The North American luminaire service business and the European luminaires business were classified as a discontinued operation in the first quarter of the past fiscal year. As the relevant prior-year figures are presented on a comparable basis, the data on which the 2019 forecast was based has changed compared with the figures presented in the 2018 annual report. This did not affect the figures in the original forecast.

We did not achieve our original forecast for the key performance indicators of the OSRAM Licht Group (continuing operations) in fiscal year 2019. When we communicated our financial results for the first quarter of fiscal year 2019, we said that this forecast was dependent on an upturn in new orders during the second half of fiscal year 2019, as there had been a poor start to the fiscal year.

We withdrew our original forecast on March 28, 2019, and set new targets for the year. One of the reasons for this was the ongoing weakness of the automotive, general lighting, and mobile device markets. Moreover, business performance was weighed down by the general economic slowdown. Geopolitical uncertainties continued to depress demand. At that time, new orders had not picked up and there was no sign that they would recover over the remainder of the fiscal year. We achieved, and exceeded, the adjusted forecast for fiscal year 2019.

A.2.1.3 Dividends

Generally, one of our objectives is to pay our shareholders an attractive dividend. In view of the decline in business performance, the deterioration of economic conditions, and the high degree of uncertainty regarding global economic growth, however, our current priority is to strengthen the equity base. The Managing Board and Supervisory Board will therefore propose to the Annual General Meeting of OSRAM Licht AG on February 18, 2020, that no dividend be distributed for fiscal year 2019.

Fundamentally, we will continue to aim for a target dividend payout rate of between 30% and 50% of Group net income, provided this level of dividend payment is in line with long-term, sustainable business performance. Net income (loss) may be adjusted for certain extraordinary non-cash effects when determining the proposed amount to be distributed.

A.2.2 Events and Developments Responsible for the Course of Business

A.2.2.1 Macroeconomic Developments

Trade disputes and geopolitical conflicts are taking their toll on the world's economy. Although global gross domestic product (GDP) grew at a slightly faster pace in the first quarter of calendar year 2019, it weakened again in the second quarter. The U.S. economy, for example, was unable to sustain its strong start to the year. Europe's growth also slowed down in the spring, while the Japanese economy flagged owing to the lack of stimulus from foreign trade. The emerging markets were muted during the first quarter. The Russian and Indian economies, for example, were unable to maintain their rates of growth, while Brazil's economy contracted slightly. Although China's economic expansion remained rapid, the pace of growth diminished.

The indicators point to subdued conditions. After a slowdown in April, worldwide industrial output increased only minimally in May (rise of 0.2%). The developed economies picked up only slightly and the emerging markets saw a further slowdown, meaning that year-on-year growth was weak (1.3%) compared with that seen in previous years. Having declined in April, global trade increased only slightly in May and decreased compared with the prior year (fall of 0.4%). The purchasing managers' index compiled by IHS Markit for global manufacturing stabilized in August and September, having dropped well below the growth threshold of 50 points in July after its 15th fall in succession. Ifo's world economic climate index for the third quarter of calendar year 2019 is distinctly cool and has been in negative territory for four quarters.

In its most recent projection (October), the International Monetary Fund (IMF) predicted that global growth would slow to 3.0% in calendar year 2019, compared with 3.6% in 2018. The IMF believes that manufacturing activity has weakened considerably, reaching its lowest level since the global financial crisis. According to the IMF, this muted growth and weak production are predominantly a consequence of increasing trade barriers and greater trade-related and geopolitical uncertainties.

The level of growth in the global economy was relevant to the performance of the OSRAM Licht Group in fiscal year 2019 because it influenced end markets with direct links to the lighting market, such as the automotive industry. The trade dispute between the U.S.A. and China and the rise in customs tariffs worldwide, for example, are hampering growth in various end markets, and the associated uncertainties have clearly increased. It may therefore be more difficult than in previous years to come up with forecasts for the end markets > [A.2.2.2 The Lighting Market in Fiscal Year 2019](#).

The cost of materials (including energy) accounts for a significant portion of our cost of goods sold and services rendered. LED-related materials and pre-materials account for the lion's share of OSRAM's purchasing volume. However, the volume of commodities purchased is much smaller and, as a result, price risk and fluctuations in the price of the commodities that OSRAM needs are insignificant. Furthermore, OSRAM tries to reduce volatility by drafting its procurement contracts accordingly and—where it makes economic sense—hedges its exposure to commodity price risk by purchasing appropriate derivatives [▶ Note 29 | Financial Risk Management](#) in B.6 Notes to the Consolidated Financial Statements. Consequently, changes in commodity prices had no material impact on our earnings in fiscal year 2019. The situation regarding other materials and pre-materials was different, however. Shortages in the market for electronic components continued from the previous year—although they were less severe and eased over the course of the year—and the related price increases had a negative influence on our cost of materials. This was also the case for price increases at our suppliers resulting from the imposition of customs duties, although their effect was limited overall.

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There was a moderate decrease in the average exchange rate between the euro and the U.S. dollar for fiscal year 2019 compared with the previous year, with the euro depreciating by 5%. As a substantial proportion of our revenue is generated in U.S. dollars, this situation benefited our business volume—albeit only moderately in line with the movement of the exchange rate. Overall, there were modest positive currency effects on our net income (loss), compared with a significant negative impact in the previous year.

A.2.2.2 The Lighting Market in Fiscal Year 2019

Our assessments of the global lighting market are based on statistics from the World Semiconductor Trade Statistics (WSTS) organization, forecasts by IHS Markit, Yole Développement, Consensus Economics, and Strategies Unlimited, and internal analyses.

The lighting market saw growth in the lower single-digit percentage range in fiscal year 2019 that was on a par with the growth of the economy as a whole. The market segments that are significant for OSRAM's revenue—opto semiconductors and light sources for the automotive sector—registered a decline in demand. Growth segments that will be significant for OSRAM in the future, such as LED lighting for plant cultivation and lasers for automotive sensors, again achieved clear double-digit percentage growth.

Automotive production is predicted to see a clear deterioration compared with the previous year's growth rate, contracting by roughly 6% in fiscal year 2019. Car production has been adversely affected by the trade dispute between the U.S.A. and China. For a time, there were also concerns that the U.S.A. would possibly impose punitive tariffs on imports from Mexico and on imports of European cars to the U.S.A. While demand was weak in both Europe and the U.S.A., Chinese sales figures slumped particularly sharply. This reduction in China was triggered by a market shakeout following the overheating of the private car finance sector and the government-led tightening of safety and emissions standards. As a result of this situation, the automotive lighting market contracted, with a sharper fall in demand for products based on traditional technologies.

The semiconductor market also contracted in fiscal year 2019. The WSTS, the statistics organization for the semiconductor industry, reported growth of 14% in calendar year 2018, but in its August forecast for calendar year 2019, it predicted contraction of 13% based on the results for the first two quarters of the calendar year. All regions are expected to see contraction.

Like the other markets, the construction sector has also experienced a downturn. The EU-28 Construction Confidence Indicator, for example, has seen a clear fall since reaching a two-year high in November 2018 and, in fact, dropped into negative territory in September. The situation was similar in the U.S.A., where there was a clear slowdown in construction spending growth from its highs of 6% to 8% year on year at the end of 2018 to barely above 0% in August 2019.

The trend in the lighting market described above was largely reflected in our business performance. This was especially the case in the automotive business, on which our two biggest segments, OS and AM, are dependent—still with an increasing emphasis on the Asian market [▶ A.2.3.3 Opto Semiconductors](#), [▶ A.2.3.4 Automotive](#). The weakening of the general lighting segment was also reflected in the revenue from this part of OS's business and in the relevant areas of business at DI [▶ A.2.3.5 Digital](#).

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A.2.2.3 Other Significant Events Responsible for the Course of Business

OSRAM's Strategy

In November 2018, the Managing Board adopted a new strategy for the business units of OSRAM that will enable them to concentrate even more on digitalization and markets of the future going forward. The focus is on opto semiconductors, the automotive sector, and digital applications. To this end, we have made changes to our organizational and segment structure > [A.1.1.1 Business Model](#) and > [A.1.1.3 Organization and Reporting Structure](#).

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As part of this, OSRAM also announced its medium-term performance targets in November 2018.

	Opto Semiconductors (OS)	Automotive (AM)	Digital (DI)	
Competitive position ¹⁾	# 2	# 1	# 2	
Target corridor ²⁾				
Revenue growth	~ 10%	3% – 7%	3% – 8%	> 10%
Adjusted EBITDA margin	23% – 29% (through the cycle)	9% – 11%	5% – 10% mid-term	> 10% longer term

Assumptions: No recession or financial crisis; currently prevailing currency translation rates (esp. USD, CNY, MYR).

1) AM market position for light sources incl. LEDs; DI market position for electronics and components.

2) This does not constitute segment guidance for fiscal year 2020.

In view of the current market situation, OS and DI should achieve these medium-term targets, but with a two-year delay. With regard to AM, OSRAM is currently in talks with Continental AG about OSRAM CONTINENTAL GmbH, whose results are included in those of the AM reporting segment and which has fallen short of expectations recently. Given the uncertainties relating to OSRAM CONTINENTAL, AM may potentially not achieve its margin target. With regard to the other AM activities, which predominantly consist of the traditional automotive lighting business, the assumptions continue to apply unchanged that were used as the basis for the medium-term outlook communicated in November 2018.

In terms of the strategic direction in which we are heading as we transform into a high-tech photonics company, we are continuing with our existing growth and innovation strategy. Consequently, we again invested a considerable amount in property, plant, and equipment, acquisitions, and research and development in fiscal year 2019. Following the very high level of capital expenditure on property, plant, and equipment in recent years, particularly in fiscal years 2017 and 2018, we are aiming for a capital expenditure ratio (capital expenditure on intangible assets and on property, plant, and equipment) of 7% to 9% of revenue in the future (in regular operations).

Capital Expenditure

In the past fiscal year, OSRAM's capital expenditure on intangible assets and on property, plant, and equipment of around €208 million was down sharply (previous year: €455 million). This sum was reduced by government grants of around €41 million received in connection with our capital expenditure at OS. Overall, we were therefore within our target range for the capital expenditure ratio. The bulk of the investment was again accounted for by property, plant, and equipment in fiscal year 2019. Most of this was in OS. Besides the provision of specific manufacturing capacity, particularly for new products, another focus of capital expenditure was replacement investment. As of September 30, 2019, contractual obligations to purchase property, plant, and equipment amounted to €40 million (previous year: €112 million).

Acquisitions and Strategic Equity Investments

In fiscal year 2019, OSRAM invested €50 million in the acquisition of Ring Automotive, Leeds, Great Britain. This company is one of Europe's leading suppliers in the market for motor vehicle retrofitting and spare parts. Its product portfolio extends OSRAM's range beyond classic automotive lighting; see also > [Note 4 | Acquisitions, Disposals, and Discontinued Operations](#) in B.6 Notes to the Consolidated Financial Statements. OSRAM spent a further €14 million on the purchase of equity investments.

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R&D Expenses

There was a moderate rise in our R&D expenses to €418 million (previous year: €400 million). Due in large part to the decrease in the volume of business [▶ A.2.3.1 Revenue](#), R&D intensity was thus substantially higher than our targeted level of 9% in fiscal year 2019. Excluding restructuring expenses, it stood at 11.3%. The growth of R&D expenses was solely attributable to a sharp increase at AM that was mainly attributable to OSRAM CONTINENTAL. Spending at OS and DI was lower than in the previous year. See also [▶ A.1.1.2 Research and Development](#).

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Process Improvements and Structural Adjustments

The lighting market is undergoing a two-pronged technological shift: firstly due to the ongoing transition from traditional to semiconductor-based lighting technologies and, increasingly, due to the growing use of digital technologies in general (e.g., IoT). The effects of this shift, for example on the competitive situation, have a direct influence on our business activities.

To deal with this situation and in view of the difficult market conditions, the Managing Board decided in fiscal year 2018 to initiate an extensive package of measures aimed at improving our competitiveness. Besides the streamlining of administrative functions worldwide, which should reduce administration costs by around 20%, further operational and structural programs were launched. The resulting improvements to structural efficiency in purchasing, R&D, and the German plant network should, by 2020, enable savings totaling €120 million to €150 million compared with our cost base in fiscal year 2017. In addition to these existing programs, we initiated a further program of structural change in fiscal year 2019—mainly at OS—in order to counter the ongoing adverse trends in our business environment. As a result, we have raised our target for cost savings to around €220 million, to be achieved by fiscal year 2021. Of these savings, we realized around €107 million in the past fiscal year, which was more than we had targeted for fiscal year 2019.

In the fiscal year under review, these measures notably resulted in transformation costs totaling €87 million (previous year: €79 million) that impacted on EBITDA. These expenses were incurred in all three segments and in Corporate items, with the largest share attributable to OS.

Following the Managing Board's strategic decision to dispose of the entire luminaires business, the sales process for both the luminaire service business in North America and the European luminaires business (both part of the former Lighting Solutions Business Unit) was started in fiscal year 2018, and the two businesses have been reported as a discontinued operation since the start of fiscal year 2019. We found buyers for both businesses in fiscal year 2019:

- In March 2019, the sale of the luminaire service business—predominantly operated by Sylvania Lighting Service Corp. (SLS), Wilmington, U.S.A.—was completed by selling SLS's business operations to WESCO International, Inc., Pittsburgh, U.S.A.
- In June 2019, OSRAM signed an agreement with Stern Stewart Capital Sustainability GmbH, Munich, Germany, concerning the sale of the European luminaires business—predominantly operated by Siteco Beleuchtungstechnik GmbH (Siteco), Traunreut, Germany. The transaction was completed on October 1, 2019, after the end of OSRAM's fiscal year.

For further information on these transactions, see [▶ Note 4 | Acquisitions, Disposals, and Discontinued Operations](#) in B.6 Notes to the Consolidated Financial Statements.

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Takeover Offers

Voluntary Public Takeover Offer by Bain Capital and The Carlyle Group

On July 22, 2019, Luz (C-BC) Bidco GmbH (Luz Bidco), Munich, Germany, submitted a voluntary public takeover offer to the shareholders of OSRAM Licht AG in accordance with sections 34, 29, and 14(2) sentence 1 and (3) sentence 1 of the *Wertpapiererwerbs- und Übernahmegesetz* (WpÜG—German Securities Acquisition and Takeover Act) by publishing the offer document within the meaning of section 11 of the WpÜG. According to the offer document, Luz Bidco is a holding company jointly controlled by certain investment funds that are advised by and/or affiliated with companies of the financial investors Bain Capital Private Equity and The Carlyle Group. On July 4, 2019, OSRAM signed an investor agreement with the two financial investors concerning the underlying provisions and conditions of the offer as well as the joint intentions and views regarding future collaboration. The offer was made to all OSRAM shareholders and related to the purchase of all of their registered no-par-value shares with a notional value of €1.00 of the capital stock, in return for consideration of €35 per share. The offer specified a minimum acceptance threshold of 70% (excluding treasury shares held by OSRAM), other conditions that reflect normal business practice, and an acceptance deadline of September 5, 2019. In their joint reasoned statement dated July 30, 2019, the Managing Board and Supervisory Board of OSRAM Licht AG recommended that the OSRAM shareholders accept the takeover offer. The acceptance deadline was extended until October 1, 2019, because of a competing offer within the meaning of section 22 of the WpÜG made by ams AG (see below).

Voluntary Public Takeover Offer by ams AG

On September 3, Opal BidCo GmbH (Opal Bidco), Frankfurt am Main, Germany, submitted a voluntary public takeover offer to the shareholders of OSRAM Licht AG in accordance with sections 34, 29, and 14(2) sentence 1 and (3) sentence 1 of the WpÜG by publishing the offer document within the meaning of section 11 of the WpÜG. Opal Bidco is a wholly owned subsidiary of ams AG (ams), Premstätten, Austria. On August 21, 2019, the Managing Board of OSRAM Licht AG rescinded an existing standstill agreement with ams and, with the consent of the Supervisory Board, signed a cooperation agreement containing commitments to protect employees, locations, and significant parts of the Company so that ams was able to publish the takeover offer. The offer was made to all OSRAM shareholders and related to the purchase of all of their registered no-par-value shares with an imputed share of the capital stock of €1.00, in return for consideration of €38.50 per share. The offer specified a minimum acceptance threshold of 70% (excluding treasury shares held by OSRAM), other conditions that reflect normal business practice, and an acceptance deadline of October 1, 2019. The original offer was amended on September 16, 2019, when the minimum acceptance threshold was changed to 62.5%. In their joint reasoned statements dated September 16 and 20, 2019 (relating to the original and amended takeover offers respectively), the Managing Board and Supervisory Board of OSRAM Licht AG recommended that the OSRAM shareholders accept the offer. As ams (a person acting in concert with Opal Bidco within the meaning of section 2(5) of the WpÜG) entered into an agreement on September 27, 2019, to purchase 100 OSRAM shares at a purchase price of €41.00 per share outside of the takeover offer, the consideration in the takeover offer in accordance with section 31(4) of the WpÜG rose from €38.50 to €41.00 per OSRAM share.

The acceptance deadline for both of the takeover offers was October 1, 2019 (after the end of OSRAM's fiscal year). Neither ams nor the bidding consortium comprising Bain Capital and The Carlyle Group succeeded in reaching the minimum acceptance thresholds that they had each defined. The two takeover bids therefore failed.

Indicative Offer Letter from Advent and Bain Capital

On September 25, 2019, OSRAM received an indicative offer letter from financial investors Advent and Bain Capital. The letter said that Advent and Bain Capital had decided to form a consortium with the aim of submitting a binding offer in respect of all OSRAM shares. The indicative offer letter does not contain a specific offer price. In the offer letter, Advent states that it will essentially take on the same obligations—and certainly not lesser obligations—as those of the consortium comprising Bain Capital and The Carlyle Group. The consortium comprising Advent and Bain Capital intended to send a binding transaction offer after successfully completing limited, confirmatory due diligence on the Company in the next few weeks, arranging new, as yet unspecified funding, and obtaining the final consent of the relevant investment committees. The Managing Board of OSRAM believed that, in the interest of the Company and its shareholders, it was appropriate to enable the consortium comprising Advent and Bain Capital to firm up its potential offer quickly.

On October 18, 2019 (after the end of fiscal year 2019), the consortium comprising Advent and Bain Capital notified us that it was not continuing with the due diligence on the Company and, for the time being, would not be pursuing the plan to make a voluntary public takeover offer for all outstanding OSRAM shares. Also on October 18, 2019, ams AG announced that it would submit a new voluntary public takeover offer to all shareholders of OSRAM Licht AG through its wholly owned subsidiary ams Offer GmbH, Frankfurt am Main, Germany. The offer document was published on November 7, 2019. For details, see [A.3 Events After the Reporting Date](#).

A.2.3 Results of Operations

A.2.3.1 Revenue

Revenue by Segments

in € million

	Fiscal year		Change			
	2019	2018	nominal	therein currency	therein portfolio	comparable
Opto Semiconductors	1,453	1,725	(15.7)%	2.2%	0.4%	(18.4)%
Automotive	1,776	1,920	(7.5)%	2.0%	1.5%	(11.0)%
Digital	916	914	0.2%	1.7%	6.5%	(8.1)%
Reconciliation to consolidated financial statements	(681)	(770)	(11.6)%	2.4%	0.0%	(13.9)%
OSRAM (continuing operations)	3,464	3,789	(8.6)%	2.0%	2.5%	(13.1)%

- OSRAM's volume of business declined due to difficult market conditions for our core businesses of automotive, general lighting, and mobile devices; negative market conditions seen in the previous year continued into the reporting year, becoming even more pronounced
- Clear 8.6% reduction in revenue compared with previous year; decrease was significant on a comparable basis owing to positive currency translation and portfolio effects; revenue also negatively impacted by a price fall in the mid-single-digit percentage range
- Modest currency translation effects, primarily because the average euro/U.S. dollar exchange rate for the year moved only moderately
- Portfolio effects accounted for 2.5% in total and were due to acquisitions in the previous year (primarily BAG electronics GmbH, Arnsberg, Germany, and Fluence Bioengineering, Inc., Austin, Texas, U.S.A.)
- Fall in revenue attributable to first-time adoption of IFRS 15 was negligible > Note 3 | Impact of First-time Adoption of New Accounting Pronouncements in B.6 Notes to the Consolidated Financial Statements
- Revenue went down in all segments on a comparable basis; significant fall at OS, on both a nominal and a comparable basis; also a significant decrease at AM on a comparable basis; modest nominal growth at DI but a clear decline on a comparable basis

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Revenue by Technology

- Significant fall in revenue from traditional lighting products, especially electronic ballasts and automotive products; slightly smaller but still significant decrease in revenue from LED-based products
- Revenue from traditional products fell by a total of 14.0% year on year and from LED business by 12.6% (both on a comparable basis)
- OSRAM's revenue from LED-based products came to €2,405 million; the proportion of revenue from LED-based products was 69.4%, and thus modestly higher than in the previous year (67.9%)

Revenue by Regions

(by location of customer)
 in € million

	Fiscal year		Change			
	2019	2018	nominal	therein currency	therein portfolio	comparable
EMEA	1,180	1,284	(8.1)%	(0.2)%	4.1%	(11.9)%
therein Germany	553	692	(20.1)%			
APAC	1,232	1,462	(15.8)%	2.5%	0.1%	(18.3)%
therein China (including Hong Kong) and Taiwan	760	953	(20.3)%			
Americas	1,053	1,044	0.9%	3.8%	4.0%	(7.0)%
therein U.S.A.	805	871	(7.6)%			
OSRAM (continuing operations)	3,464	3,789	(8.6)%	2.0%	2.5%	(13.1)%

- Differences in the comparable change in revenue in OSRAM's reporting regions; significant decreases in APAC and EMEA, but a considerably larger drop in APAC; smallest reduction in the Americas, but still a clear decline
- This trend was reflected in the breakdown of total revenue by region; APAC still had the largest share of revenue at 35.6%, but a year-on-year reduction (previous year: 38.6%); clear rise in the share attributable to the Americas at 30.4% (previous year: 27.5%); at 34.0%, EMEA's share was almost unchanged on the prior-year level of 33.9%
- Greatest currency translation and portfolio effects in the Americas, with a clear impact overall; moderate currency translation and portfolio effects overall in EMEA and APAC

EMEA Region

- Significant fall in revenue on a comparable basis; the drop in nominal revenue included a modest level of negative currency translation effects and moderate positive portfolio effects
- Decline attributable to OS and AM

APAC Region

- Significant revenue reduction both on a reported and a comparable basis; moderate positive currency translation effects, modest portfolio effects
- All segments contributed to the comparable decrease, although the main factor was the substantial fall at OS
- The region's reduction in revenue was attributable to the decrease in China

Americas Region

- Reported revenue modestly higher than in the previous year; this region had the greatest positive currency translation and portfolio effects, with the acquisition of Fluence Bioengineering, Inc., Austin, Texas, U.S.A., at DI being the primary reason for the portfolio effects; clear overall fall in adjusted revenue
- Decrease in revenue on a comparable basis owing to trend across all segments, with the greatest decrease on a comparable basis at OS; the trend at regional level on a comparable basis was also considerably affected by the substantial contraction of the volume of business in Digital Systems at DI

A.2.3.2 Earnings

Earnings

in € million

	Fiscal year		Change
	2019	2018	nominal
EBITDA segments			
Opto Semiconductors	202	417	(51.4)%
Automotive	117	197	(40.6)%
Digital	(39)	6	n.a.
Reconciliation to consolidated financial statements	(105)	(98)	6.7%
EBITDA OSRAM (continuing operations)	176	522	(66.2)%
EBITDA margin	5.1%	13.8%	(870) bps
Special items ¹⁾	(131)	(100)	31.3%
therein transformation costs	(87)	(79)	11.0%
therein acquisition-related costs	(41)	(18)	125.2%
Adjusted EBITDA	307	622	(50.6)%
Adjusted EBITDA margin	8.9%	16.4%	(750) bps
Amortization, depreciation, and impairments	(521)	(251)	107.7%
Net financial income or expense ²⁾	(32)	(9)	>200%
Income (loss) before income taxes OSRAM (continuing operations)	(377)	263	n.a.
Income taxes	33	(74)	n.a.
Income (loss) OSRAM (continuing operations)	(343)	188	n.a.
Income (loss) from discontinued operations, net of tax	(123)	(48)	158.4%
Net income (loss)	(467)	141	n.a.

1) Of which €–53 million was attributable to OS (previous year: €–1 million), €–22 million to AM (previous year: €–39 million), and €–29 million to DI (previous year: €–33 million) in fiscal year 2019; impact of €–27 million in *Corporate items (Reconciliation to the consolidated financial statements)* (previous year: €–27 million).

2) Income (loss) from investments accounted for using the equity method, net; interest income; interest expenses; and other financial income (expenses), net.

EBITDA of OSRAM (continuing operations)

- At €307 million, EBITDA adjusted for special items was down sharply year on year
- Decreases, in some cases sharp, in all segments; DI slipped from positive territory in the previous year to just into negative territory
- This trend was predominantly due to volume effects resulting from the reduction in revenue and the related decrease in economies of scale; OSRAM CONTINENTAL's negative earnings performance was an additional factor
- Accordingly, OSRAM's adjusted EBITDA margin sank by 750 bps
- Substantial year-on-year rise in special items to €131 million, the largest share of which (40%) was attributable to OS; the remainder was largely evenly split among the other segments and *Corporate items*
- Two-thirds of the special items resulted from transformation costs, of which more than three-quarters consisted of personnel-related restructuring expenses > [Note 5 | Personnel-related Restructuring Expenses](#) in B.6 Notes to the Consolidated Financial Statements; about a third was due to acquisition-related costs, of which roughly half was attributable to contingent consideration liabilities in the context of acquisitions
- Almost half of the special items impacted on Cost of goods sold and services rendered; the remainder related—in largely equal measure—to *Research and development expenses and to Marketing, selling, and general administrative expenses*
- Substantial reduction in gross profit to €886 million (previous year: €1,234 million) due to the above-mentioned effects of the reduction in volume and loss of economies of scale; gross profit margin thus deteriorated by more than a fifth to 25.6%
- Moderate rise in *Research and development expenses* and a clear increase in marketing and selling expenses, in particular due to acquisitions in the previous year and restructuring expenses; *Research and development expenses* expressed as a percentage of revenue stood at 12.1%; this constitutes a significant year-on-year increase owing to the reduction in business volume compared with previous year and the sharp rise at AM, especially at OSRAM CONTINENTAL
- Lower general administrative expenses than in the previous year
- In line with the adjusted EBITDA trend, reported EBITDA went down by €346 million, although this was a more pronounced fall due to the change in special items

Income (Loss) OSRAM (continuing operations)

- Sharp rise in depreciation, amortization, and impairment due to our capital expenditure on property, plant, and equipment (primarily at OS) and impairment losses of €39 million on the goodwill of the Digital Systems cash-generating unit within the DI Segment and of €171 million on the goodwill of the OSRAM CONTINENTAL cash-generating unit within the AM Segment > [Note 15 | Goodwill and Other Intangible Assets](#) in B.6 Notes to the Consolidated Financial Statements
- Deterioration of €23 million in net financial income or expense, due in part to the net income (loss) from investments accounted for using the equity method, and higher interest expense resulting from the increase in debt
- An income tax benefit was recognized in the fiscal year under review; however, the tax rate of 8.8% was well below the Group tax rate of 30.1%, in particular because of non-deductible impairment of goodwill and the non-recognition of deferred tax assets; the effective tax rate in the previous year had been 27.9% > [Note 9 | Income Taxes](#) in B.6 Notes to the Consolidated Financial Statements
- Net income (loss) from continuing operations dropped sharply to a loss
- Diluted earnings per share of OSRAM (continuing operations) thus fell to €–2.93 (previous year: €1.91)

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Net Income (Loss)

- The discontinued operation's net loss rose sharply owing to classification of the North American luminaire service business and the European luminaires business (Siteco) as a discontinued operation in the first quarter of the past fiscal year
- The loss in fiscal year 2019 was attributable to the current income and expense of the two businesses and, in particular, the loss of €7 million after taxes on the sale of the service business and an impairment loss of €64 million after taxes at Siteco > [Note 4 | Acquisitions, Disposals, and Discontinued Operations](#) in B.6 Notes to the Consolidated Financial Statements
- Diluted earnings per share were in negative territory at €–4.22 (previous year: €1.42)

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A.2.3.3 Opto Semiconductors

Segment Data OS

in € million

		Fiscal year		Change	
		2019	2018	nominal	comparable
Total revenue ¹⁾		1,453	1,725	(15.7)%	(18.4)%
External revenue		702	861	(18.5)%	
EBITDA		202	417	(51.4)%	
EBITDA margin		13.9%	24.2%	(1,020) bps	
Employees as of September 30	in thousands FTE	11.4	13.3	(14.3)%	

1) Including Intersegment revenue of €752 million (previous year: €864 million).

Revenue

- Difficult market conditions continued from the previous year, deteriorating further and thereby having a severe impact on the volume at OS; slump in demand owing to decline in automotive manufacturing; weak business with mobile devices (particularly smartphones) and in general lighting; revenue also negatively impacted by a price fall in the high-single-digit percentage range
- Decrease in all reporting regions on a comparable basis; particularly pronounced drop in revenue in the APAC region (above all in China), which recorded a substantial decrease of more than a fifth
- Reported revenue down significantly year on year despite positive currency translation effects of 2.2% and a portfolio effect of 0.4% in connection with Vixar, Inc., Plymouth, U.S.A., which was acquired in fiscal year 2018; even larger fall on a comparable basis
- Significant or substantial decreases in all business units; largest fall in the industrial and mobile device business, where revenue went down by more than a fifth (on a comparable basis); besides the market conditions, the automotive business was weighed down by a reduction in revenue caused by loss of market share—in turn resulting from the allocation situation of customer supply in the past; by comparison, the percentage decrease in revenue from general lighting was only half as much

Earnings

- Lower revenue was the main influence on earnings performance
- EBITDA fell sharply to €202 million (previous year: €417 million); decrease primarily attributable to the industrial and mobile devices business
- Performance programs implemented during the fiscal year made a difference but led to considerable transformation costs; adjusted EBITDA amounted to €255 million (previous year: €418 million)
- Decline in earnings mainly caused by the effects of declining volumes and the loss of economies of scale in a business characterized by high operating leverage, but also by non-recurring expenses in the low double-digit millions of euros (e.g., due to legal disputes), negative product mix effects, and lower licensing income than in the previous year; increased price pressures and higher costs offset by productivity measures and cost savings resulting from the performance programs; unlike in the previous year, currency effects were insignificant
- At 17.5%, the adjusted EBITDA margin was down by 670 bps compared with fiscal year 2018; at 13.9%, the reported EBITDA margin was down by 1,030 bps year on year

Assessment of Business Performance

- Revenue was well below our original forecast at the start of the fiscal year due to the unexpectedly challenging market conditions
- As a result, earnings also fell short of our expectations
- Business performance was therefore not satisfactory; remedial action initiated early on in fiscal year 2019 made a difference but did not fully and immediately offset the effects of the difficult market conditions

A.2.3.4 Automotive

Segment Data AM

in € million

		Fiscal year		Change	
		2019	2018	nominal	comparable
Total revenue		1,776	1,920	(7.5)%	(11.0)%
EBITDA		117	197	(40.6)%	
EBITDA margin		6.6%	10.3%	(370) bps	
Employees as of September 30	in thousands FTE	5.5	5.2	5.8%	

The AM Segment was reorganized at the start of the fiscal year under review > [A.1.1.1 Business Model](#).

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Revenue

- AM's business performance was predominantly influenced by the contraction of the automotive market; transfer of customers to OSRAM CONTINENTAL still ongoing
- Clear reduction in reported revenue compared with previous year; even greater decrease on a comparable basis
- Positive portfolio effects of 1.5% (resulting from OSRAM CONTINENTAL and the acquisition of Ring Automotive); currency translation effects also positive at 2.0%
- Significant fall in revenue on a comparable basis in APAC and EMEA; particularly weak demand in China
- Clear fall in revenue from LED-based products overall (on a comparable basis); slightly greater contraction of the volume of business involving traditional technology; LED products accounted for 59.7% of AM's revenue in fiscal year 2019 (previous year: 58.5%)
- Business with LED components saw the greatest fall; in addition, original equipment manufacturer business registered a substantial decrease in revenue from traditional xenon and halogen headlights, whereas revenue increased from XLS products (eXchangable LED LightSource); stable aftermarket business, with growth of LED retrofits

Earnings

- Sharp drop in EBITDA to €118 million (previous year: €197 million); adjusted EBITDA also down sharply year on year at €139 million (previous year: €237 million)
- The EBITDA margin and adjusted EBITDA margin each fell by more than a third, reaching 6.6% and 7.8% respectively (previous year: 10.3% and 12.3%)
- This was due to the contraction of the volume of business, which led to negative volume effects and the loss of economies of scale; OSRAM CONTINENTAL reported a loss, mainly because of high start-up costs (primarily for research and development)

- Sharp decrease in special items to €22 million overall (previous year: €39 million)
- The impairment loss on the goodwill of OSRAM CONTINENTAL, which is not included in reported segment earnings, had an impact of €171 million > [Note 15 | Goodwill and Other Intangible Assets](#) in B.6 Notes to the Consolidated Financial Statements

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Assessment of Business Performance

- We fell well short of our original revenue targets in a market that was contracting markedly
- Earnings and margins were therefore also worse than anticipated at the start of the fiscal year
- Performance in fiscal year 2019 was not satisfactory overall; the acquisition of Ring Automotive has underpinned our strong and profitable position in the aftermarket business; operations at OSRAM CONTINENTAL started more shakily than anticipated; medium-term planning for this strategic asset had to be revised in view of challenging conditions in the automotive market and reduced profitability

A.2.3.5 Digital

Segment Data DI

in € million

	Fiscal year		Change	
	2019	2018	nominal	comparable
Total revenue	916	914	0.2%	(8.1)%
EBITDA	(39)	6	n.a.	
EBITDA margin	(4.2)%	0.7%	(490) bps	
Employees as of September 30	4.4	5.3	(17.0)%	

The DI Segment was reorganized at the start of the fiscal year under review > [A.1.1.1 Business Model](#).

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Revenue

- Negative market conditions seen in the previous year continued, particularly taking their toll on Digital Systems, which is the segment's biggest business; market weakness, particularly for general lighting in the EMEA and Americas regions (above all in the U.S.A.); even more challenging competitive situation
- The segment's reported revenue was slightly higher than in the previous year, mainly owing to positive portfolio effects of 6.5% (acquisitions of Fluence Bioengineering, Inc., Austin, Texas, U.S.A., and BAG electronics GmbH, Arnsberg, Germany); clear reduction in the volume of business on a comparable basis
- Among the regions, APAC recorded the biggest decrease in revenue (comparable) of 12.7%, while EMEA saw a modest year-on-year fall; clear reduction in the Americas (particularly at Digital Systems), but high growth rates in specialty lamp business (especially in plant lighting)
- The proportion of total revenue accounted for by LEDs went up significantly, reaching 66.8% (previous year: 60.3%)
- On a comparable basis, revenue decreased in most of DI's businesses
- Business involving lighting systems and control gear declined significantly (on a comparable basis), primarily owing to competitive and pricing pressure in connection with conventional control gear; moderate growth in the specialty lamps business on a comparable basis, mainly thanks to higher revenue from our smart farming portfolio; significant reduction in sales of lighting systems and lighting installations due to a decline in customer projects

Earnings

- Having been in positive territory in the previous year (€39 million), adjusted EBITDA slipped into negative territory at €-9 million; adjusted EBITDA margin was -1.0% (previous year: 4.3%)
- Segment earnings were affected by the loss-making lighting systems and control gear business; this was due to the reduction in volume and the related loss of economies of scale; pricing pressure and higher costs also took their toll; all these negative effects were only partly offset by productivity measures; earnings in the previous year had been boosted by a gain of €15 million on the sale of the electric hot air devices business
- At €29 million, special items at DI affecting EBITDA were down significantly (previous year: €33 million)
- Reported EBITDA also shifted from positive to negative territory, with the corresponding EBITDA margin standing at -4.2%
- The impairment loss on the goodwill for the Digital Systems cash-generating unit within the DI Segment, which is not included in reported segment earnings, had an impact of €39 million > [Note 15 | Goodwill and Other Intangible Assets](#) in B.6 Notes to the Consolidated Financial Statements

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Assessment of Business Performance

- The DI Segment's performance fell short of what we had originally expected at the start of the fiscal year, both from a revenue and an earnings perspective; LED-based business did not make up for all of the expected decline in traditional product technologies; fiscal year 2019 was therefore not satisfactory

A.2.3.6 Reconciliation to the Consolidated Financial Statements

Structure

- *Reconciliation to consolidated financial statements* comprises *Corporate items and pensions* and *Eliminations, corporate treasury, and other reconciling items*
- *Corporate items* is used for items that are not allocated directly to the segments because, from the Managing Board's perspective, they are not indicative of their success (e.g., certain legal matters) and for the costs of governance functions, i.e., for functions that are clearly of a management nature; other central costs incurred are recognized in *Corporate items* provided that they have not been charged to the segments after the services rendered by the Group headquarters have been utilized
- *Pensions* contains the pension-related expenses and income that are not allocated to the segments
- *Eliminations, corporate treasury, and other reconciling items* comprises the consolidation of transactions between the segments; it also includes reconciliation and reclassification items as well as corporate treasury activities

Earnings

- Negative EBITDA figure of €–104 million reported under *Corporate items and pensions*, a clear year-on-year increase (previous year: €–97 million)
- *Corporate items* at €–98 million (previous year: €–93 million); *Pensions* at €–6 million (previous year: €–5 million)
- Special items were unchanged year on year at €–27 million (previous year: €–27 million), of which slightly more than half was attributable to transformation costs in connection with restructuring at the Group headquarters > [Note 5 | Personnel-related Restructuring Expenses](#) in B.6 Notes to the Consolidated Financial Statements; the remainder was primarily accounted for by acquisition-related costs
- Adjusted for special items, the EBITDA figure for *Corporate items and pensions* amounted to €–77 million (previous year: €–70 million), reflecting the change in reported EBITDA

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A.2.4 Financial Position

A.2.4.1 Principles and Objectives of Financial Management

- The main objectives are to ensure that the Group and the individual companies remain solvent at all times and to centralize and reduce financial risks
- At the same time, the cost of capital must be minimized and the Group's long-term financial stability and flexibility secured and planned
- OSRAM's financial management is responsible for managing liquidity, ensuring adequate access to the debt capital markets, hedging interest-rate, currency, and commodity price risk, carrying out Group financing, and issuing guarantees and letters of support
- Centralized management by Corporate Finance & Treasury ensures transparency and cost-efficiency
- In addition to its governance function (monitoring compliance with Group-wide rules), Corporate Finance & Treasury advises the operating companies and offers financial services
- The provision of treasury infrastructure involves, among other things, cash pooling: A centralized cash management system enables excess liquidity at individual Group companies to be used to cover the financing requirements of other Group companies, which reduces both the volume of external financing and interest expenses; the transparency required to ensure solvency is achieved by liquidity planning carried out at the level of material companies on a rolling quarterly basis
- Corporate Finance & Treasury is the central trading partner for derivative hedging transactions entered into within the OSRAM Licht Group, as far as permissible under local foreign exchange regulations; Corporate Finance & Treasury is therefore largely responsible for entering into external hedging transactions with banks
- The Treasury Risk Committee defines and monitors the risk strategy and financial management principles
- For further information on the extent and management of financial risks and on financing, see > [Note 29 | Financial Risk Management](#) and > [Note 20 | Debt](#) in B.6 Notes to the Consolidated Financial Statements

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A.2.4.2 Cash Flow and Capital Expenditure Analysis

Development of Cash Flows

in € million

	Fiscal year		Change
	2019	2018	nominal
Free cash flow segments			
Opto Semiconductors	164	(145)	n.a.
Automotive	124	169	(26.7)%
Digital	(85)	(39)	115.2%
Reconciliation to consolidated financial statements	(187)	(104)	80.4%
Free cash flow OSRAM (continuing operations)	17	(118)	n.a.
therein: Additions to intangible assets and property, plant, and equipment	(208)	(455)	(54.4)%
Net cash OSRAM (continuing operations) provided by (used in)			
Operating activities	224	337	(33.3)%
Investing activities	(246)	(614)	(60.0)%
Financing activities	71	72	(1.9)%

Free Cash Flow of OSRAM (continuing operations)

- Free cash flow improved sharply to return to positive territory, having been negative in the previous year; this was due to the sharp decrease in capital expenditure on property, plant, and equipment at OS and to net cash provided by the reduction in net operating working capital; these positive factors outweighed the adverse impact of our earnings performance
- The total capital expenditure of OSRAM (continuing operations) was actively adjusted to reflect the decrease in revenue and fell sharply to €208 million
- Around a sixth of the fall in *Capital expenditure on intangible assets and on property, plant, and equipment* was attributable to government grants at OS for the purchase of property, plant and equipment, as the reported figure for net cash used is shown net of government grants received
- The capital commitment period for net operating working capital (days outstanding) changed to 74 days (previous year: 62 days) > [A.2.6 Reconciliation of Performance Indicators](#), which did not reflect the release of funds from net operating working capital because the figures for the reporting year and the previous year are not comparable owing to special items; in the past fiscal year, the performance indicator was affected by an increase in trade receivables resulting from a reclassification effect attributable to first-time adoption of IFRS 15 > [Note 3 | Impact of First-time Adoption of New Accounting Pronouncements](#) in B.6 Notes to the Consolidated Financial Statements, while trade payables had been at a significantly heightened level as of September 30, 2018, owing to outstanding items in connection with capital expenditure at OS
- Free cash flow at OS was influenced by the budgeted decrease in capital expenditure to €139 million (previous year: €393 million) and the release of considerable funds resulting from the reduction in net operating working capital
- AM's free cash flow was substantially lower than in the previous year, mainly because of the decrease in earnings; however, the latter was mitigated by measures to improve net operating working capital
- The negative free cash flow seen at DI in the previous year increased sharply again due to the fall in earnings; however, the latter was mitigated by measures to reduce net operating working capital

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Additions to Intangible Assets and Property, Plant, and Equipment

by Segments
in € million

	Fiscal year	
	2019	2018
Opto Semiconductors	139	393
Automotive	49	38
Digital	19	22
Corporate items and pensions	1	2
Additions to intangible assets and property, plant, and equipment OSRAM (continuing operations)	208	455

by Regions
in € million

	Fiscal year	
	2019	2018
EMEA	96	215
APAC	91	227
Americas	20	13
Additions to intangible assets and property, plant, and equipment OSRAM (continuing operations)	208	455

Other Investing Activities and Disposals at OSRAM (continuing operations)

- Proceeds and payments from the sale of businesses less outgoing cash and cash equivalents resulted from the sale of Sylvania Lighting Services Corp. (SLS), Wilmington, U.S.A.; see also [Note 4 | Acquisitions, Disposals, and Discontinued Operations](#) in B.6 Notes to the Consolidated Financial Statements
- Of the investments in financial assets, €3 million was attributable to LeddarTech Inc., Quebec, Canada and €3 million to Square Metrics GmbH, Berlin, Germany (both of which are investments accounted for using the equity method), €3 million to another equity investment Recogni, Inc., Cupertino, California, U.S.A., and €2 million to capital contributions to investment entities

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Cash Flows of the Discontinued Operation

- Net cash used in operating and investing activities totaled €60 million in fiscal year 2019 (previous year: €68 million)

A.2.4.3 Financing and Liquidity Analysis

Net Debt

in € million

	September 30,	
	2019	2018
Short-term debt and current maturities of long-term debt	539	233
+ Long-term debt	120	152
Total debt	659	385
Cash and cash equivalents	310	333
+ Available-for-sale financial assets	–	0
Total liquidity	310	333
Net debt	(350)	(51)
– Pension plans and similar commitments	167	162
Adjusted net debt	(516)	(213)

Net Cash Provided by (Used in) Financing Activities of OSRAM (continuing operations)

- Net cash of €281 million drawn down from the revolving credit facility
- Total dividend payment of €107 million (previous year: €107 million) to shareholders of OSRAM Licht AG
- Under a share buyback program, 2,663,125 shares were repurchased between January and the program's early termination in May; this accounted for cash payments of €92 million
- Net cash provided by financing activities of the continuing operations amounted to €71 million (previous year: €72 million)

Net Debt

- Amount drawn down from the revolving credit facility increased from €179 million as of September 30, 2018, to €460 million as of September 30, 2019
- Of the total amount of the revolving loan facility of €950 million, €886 million can be drawn down until February 2022; the term continues until February 2020 for an amount of €64 million
- The total amount of the loans from the European Investment Bank decreased by €32 million to €152 million as a result of scheduled repayments
- Other debt resulting from loans granted by the non-controlling investor Continental to OSRAM CONTINENTAL companies increased from €17 million as of September 30, 2018, to €42 million as of September 30, 2019
- Net debt divided by EBITDA is used as a performance indicator as part of debt management and for contractual obligations under loan agreements (financial covenants) > [Note 20 | Debt](#) and > [Note 27 | Additional Disclosures on Capital Management](#) in B.6 Notes to the Consolidated Financial Statements

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Development of Net Debt

in € million

	Fiscal year 2019
Net debt as of September 30, 2018	(51)
EBITDA OSRAM (continuing operations)	176
Change in net working capital ¹⁾	123
Change in other assets and liabilities	(40)
Income taxes paid	(38)
Other cash flows from operating activities ²⁾	3
Additions to intangible assets, property, plant, and equipment	(208)
Free cash flow OSRAM (continuing operations)	17
Dividends paid to shareholders of OSRAM Licht AG	(107)
Purchase of treasury shares	(92)
Acquisitions, net of cash acquired	(50)
Proceeds and payments from the sale of business activities, net of cash disposed of	22
Purchases of investments	(14)
Other investing and financing activities OSRAM (continuing operations) ³⁾	4
Cash flows from operating and investing activities discontinued operation and reclassification to <i>Assets held for sale</i> according to IFRS 5	(77)
Net debt as of September 30, 2019	(350)

1) Includes changes in inventories, trade receivables, other current assets, trade payables, current provisions, and other current liabilities.

2) Includes dividends received, interest received, and other reconciling items to net cash provided by (used in) operating activities.

3) Includes non-cash effects, e.g., from currency translation, in addition to cash transactions.

Financial Instruments Not Recognized in the Statement of Financial Position

To diversify the funding structure and to supplement other liquidity management instruments, OSRAM entered into a factoring agreement with a major German factoring company on September 23, 2019, under which trade receivables in a volume of up to €95 million can be sold on a non-recourse basis; no receivables had been sold as of September 30, 2019.

Contractual Payment Obligations to Third Parties

Future cash outflows resulting from contractual obligations in existence as of September 30, 2019, were as follows:

Payments from Third Party Contractual Obligations

in € million

	Total	Less than 1 year	1 to 5 years	After 5 years
Debt ¹⁾	662	540	116	6
Purchase obligations	414	389	23	2
Operating leases	234	52	120	62
Total contractual obligations	1,310	981	259	70

1) Including interest payments.

- For details on the breakdown of debt, see [Note 20 | Debt](#) in B.6 Notes to the Consolidated Financial Statements
- Purchase obligations include legally binding obligations to purchase property, plant, and equipment, intangible assets, materials and supplies, and services
- Operating leases largely relate to the long-term rental of buildings

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A.2.4.4 Financing of Pension Plans and Similar Commitments

- OSRAM's principal pension plans and similar commitments relate to Germany and the U.S.A.; it has less significant commitments in other countries
- The plans are virtually fully funded

Funded Status of OSRAM (continuing operations)

- Defined benefit obligation: €1,249 million (previous year: €1,063 million)
- Fair value of plan assets: €1,098 million (previous year: €928 million)
- Underfunding had risen to €151 million as of September 30, 2019 (previous year: €135 million); proportion of commitments covered by plan assets (including unfunded commitments): 88% (previous year: 87%); proportion of commitments in funded plans covered by plan assets still high at 98% (previous year: 98%)
- The change in the funded status was attributable to various positive and negative factors, in particular an increase in the defined benefit obligation in Germany and the U.S.A. owing to lower discount rates that was virtually offset by the positive performance of the plan assets

A.2.5 Net Assets

A.2.5.1 Statement of Financial Position Analysis

Assets

- Clear decrease in the total assets of the OSRAM Licht Group as of September 30, 2019, compared with the end of fiscal year 2018
- Changes in the asset structure attributable to various factors, including the reclassification of non-current assets to *Assets held for sale* [Note 4 | Acquisitions, Disposals, and Discontinued Operations](#) in B.6 Notes to the Consolidated Financial Statements and reclassification in connection with first-time adoption of IFRS 15 [Note 3 | Impact of First-time Adoption of New Accounting Pronouncements](#) in B.6 Notes to the Consolidated Financial Statements
- *Cash and cash equivalents* stood at €310 million as of the reporting date, which was lower than the figure a year earlier of €333 million; the main influence on this item was the discontinued operation's negative cash flow [A.2.4.2 Cash Flow and Capital Expenditure Analysis](#) along with the net cash outflow in connection with acquisitions, equity investments, the dividend payment, and the purchase of treasury shares; the €281 million increase in the amount drawn down from the revolving credit facility had a countervailing effect
- Clear reduction in both *Trade receivables and Inventories*, above all because of the steps taken to manage working capital in view of the decline in business activity and also because of the reclassification to *Assets held for sale*; the total reduction exceeded €100 million

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- *Income tax receivables* fell by €27 million, almost entirely due to the recovery of such receivables in Germany
- This led to a clear decrease in current assets overall, although there was a countervailing rise of €69 million in connection with first-time adoption of IFRS 15 and a €44 million increase in *Assets held for sale*
- Clear fall in non-current assets that was essentially caused by the impairment of *Goodwill* amounting to €210 million and the reclassification to *Assets held for sale*; countervailing increase in *Deferred tax assets* to €410 million (previous year: €309 million) > [Note 9 | Income Taxes](#) in B.6 Notes to the consolidated financial statements
- The proportion of total assets accounted for by non-current assets held steady at approximately 58% (previous year: 58%)

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Liabilities and Equity

- *Short-term debt and current maturities of long-term debt* advanced by more than €300 million to €539 million, primarily owing to the €281 million increase in the amount drawn down from our revolving credit facility > [Note 20 | Debt](#) in B.6 Notes to the Consolidated Financial Statements
- Substantial reduction in *Trade payables* to €548 million (previous year: €714 million) owing to the decrease in business activity and the reclassifications to *Liabilities associated with assets held for sale*
- *Income tax payables* fell by €45 million, above all in connection with liabilities outside Germany
- Significant rise in current liabilities and provisions overall, including €69 million in connection with first-time adoption of IFRS 15 (predominantly because of the recognition of refund liabilities in *Other Current Financial Liabilities*) and €78 million as a result of the increase in *Liabilities associated with assets held for sale*
- *Long-term debt* fell to €120 million (previous year: €152 million) due to the scheduled repayment of the loan from the European Investment Bank
- Moderate rise in *Pension plans and similar commitments* to €167 million (previous year: €162 million)
- Therefore a clear reduction in non-current liabilities and provisions compared with the previous year
- Significant decrease in equity attributable to the negative earnings performance, the dividend payment of €107 million, and share buybacks of €92 million; the *Common stock and Additional paid-in capital* line items went down owing to the reduction of the capital stock of OSRAM Licht AG on November 13, 2018, which had a countervailing impact on *Treasury shares, at cost* > [Note 26 | Equity](#) in B.6 Notes to the Consolidated Financial Statements
- The sharp fall in *Non-controlling interests* to €79 million (previous year: €140 million) related to OSRAM CONTINENTAL
- Equity ratio (total equity to total assets) of 48% as of September 30, 2019, was lower than the figure as of September 30, 2018 (57%)

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Balance Sheet Structure

in € million

	September 30,		Change nominal
	2019	2018	
Assets			
Current assets	1,824	1,984	(8.1)%
therein assets held for sale	93	49	88.8%
Non-current assets	2,511	2,746	(8.5)%
Total assets	4,335	4,730	(8.3)%
	September 30,		Change nominal
	2019	2018	
Liabilities and equity			
Current liabilities	1,786	1,555	14.9%
therein liabilities associated with assets held for sale	90	12	>200%
Non-current liabilities	466	498	(6.5)%
Equity	2,083	2,676	(22.2)%
Total liabilities and equity	4,335	4,730	(8.3)%

Assets Not Recognized in the Statement of Financial Position

- Significant assets that were not recognized in the statement of financial position related to intangible assets and rights under operating leases
- R&D activities, spending on which amounted to €418 million (previous year: €400 million), accounted for a large proportion of intangible assets created
- There were also cross-licensing agreements with competitors that allow the reciprocal use of patents

Liabilities Not Recognized in the Statement of Financial Position

In addition to non-cancelable operating leases, the main liabilities not recognized in the statement of financial position included obligations under purchase agreements and guarantees [▶ A.2.4.3 Financing and Liquidity Analysis](#) and [▶ Note 24 | Other Financial Commitments and Contingent Liabilities](#) in B.6 Notes to the Consolidated Financial Statements

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A.2.5.2 Explanations of Acquisitions and Disposals

For further information, see [▶ Note 4 | Acquisitions, Disposals, and Discontinued Operations](#) in B.6 Notes to the Consolidated Financial Statements.

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A.2.6 Reconciliation of Performance Indicators

This section shows the calculation of some of the performance indicators described in [▶ A.1.2 Performance Management](#). There is also a reconciliation of APMs to the most similar IFRS measures.

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Comparable Revenue Growth

Changes in revenue for OSRAM as a whole, broken down by segment, region, and technology, are shown as a percentage change between the relevant comparative period and the reporting period, either on a nominal or a comparable basis (adjusted for currency translation effects and portfolio effects). This enables the operating performance to be analyzed without any distortion caused by translating revenue into euros (when the financial statements are prepared) or by including acquisitions and divestments. Other effects, such as price increases/decreases and quantity/volume changes, are also ignored in the calculation of comparable revenue growth.

Comparable Revenue Growth

Comparable Change in Revenue

Nominal revenue growth – currency translation effects – portfolio effects = comparable revenue growth

OSRAM (continuing operations)	2019:	$-8.6\% - 2.0\% - 2.5\% = -13.1\%$	2018:	$0.2\% - (-5.1\%) - 2.8\% = 2.6\%$
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Currency Translation Effects

Revenue in reporting period at exchange rate in reporting period – revenue in reporting period at prior period exchange rate
Prior period revenue at prior period exchange rate

OSRAM (continuing operations)	2019:	$\frac{3,464 - 3,398}{3,715} = 2.0\%$	2018:	$\frac{3,789 - 3,984}{3,782} = -5.1\%$
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Portfolio Effects¹⁾

Revenue from acquisitions in the reporting period and desinvestments prior period as well as changes in the allocation of business activities

OSRAM (continuing operations)	2019:	$\frac{96}{3,789} = 2.5\%$	2018:	$\frac{104}{3,782} = 2.8\%$
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1) Portfolio changes during the fiscal year have a pro rata effect in the period following the acquisition/divestment, since there are only portfolio effects in the period of the portfolio change during those reporting months when the acquired company belongs to OSRAM, or the company disposed of no longer belongs to OSRAM. Thus, in the subsequent period, there are portfolio effects relating to the months in the period of the portfolio change during which the acquired company was not yet part of OSRAM or the company disposed of was still part of OSRAM.

EBITDA and EBITDA margin

We predominantly use the (adjusted) EBITDA margin to measure the performance of the operating business of OSRAM as a whole and of our segments. The (adjusted) EBITDA margin is defined as (adjusted) EBITDA divided by revenue. Adjusted EBITDA is calculated by adjusting EBITDA for special (recurring and non-recurring) items. In addition, we use adjusted EBITDA to determine our capital structure data. Because of the way it is defined, EBITDA does not reflect all economic effects (no loss in value of assets resulting from depreciation, amortization, and impairment). Moreover, EBITDA does not include net financial income or expense.

EBITDA

in € million

	OSRAM (continuing operations)	
	Fiscal year	
	2019	2018
Income OSRAM	(343)	188
Income taxes	(33)	74
Net financial income or expense ¹⁾	32	9
Amortization, depreciation, and impairments ²⁾	521	251
EBITDA³⁾	176	522

- 1) Income (loss) from investments accounted for using the equity method, net; interest income; interest expenses; and other financial income (expenses), net.
 2) Net of reversals of impairment losses.
 3) EBITDA (earnings before interest, taxes, depreciation, and amortization) is earnings before net financial income or expense, income taxes, impairment losses on goodwill and amortization of, and impairment losses on, other intangible assets, net of reversals of impairment losses as well as depreciation of, and impairment losses (net of reversals of impairment losses) on property, plant, and equipment.

EBITDA Margin and Adjusted EBITDA Margin

in € million

	OSRAM (continuing operations)	
	Fiscal year	
	2019	2018
Revenue	3,464	3,789
EBITDA	176	522
EBITDA margin	5.1%	13.8%
Special items	(131)	(100)
Transformation costs ¹⁾	(87)	(79)
Acquisition-related costs ²⁾	(41)	(18)
Other	(3)	(2)
Adjusted EBITDA	307	622
Adjusted EBITDA margin	8.9%	16.4%

- 1) Special items comprise transformation and acquisition-related costs, which impact on EBITDA, costs for significant legal and regulatory matters, and related income, such as from the reversal of provisions. Transformation costs, which impact on EBITDA, result mainly from the measures needed to strengthen our competitiveness (changes to manufacturing capacity, improvement of the cost position, etc.). Acquisition-related costs, which also impact on EBITDA, comprise costs incurred in connection with the acquisition and disposal of companies, equity investments, and operating businesses. In particular, these include the cost of legal and other advice, costs for integration/disposal, and adjustments in profit or loss of contingent consideration liabilities in the context of acquisitions.

Liquidity

We report free cash flow as a liquidity measure that provides an indication of our ability to generate cash over the long term from our operating activities. However, we are not entirely free to use this cash at our discretion because it is also needed for a variety of expenditures that are not at our discretion, e.g., servicing our debts or paying dividends. Free cash flow is net cash provided by (used in) operating activities less additions to intangible assets and property, plant, and equipment.

Free Cash Flow

in € million

	OSRAM (continuing operations)	
	Fiscal year	
	2019	2018
Net cash provided by (used in) operating activities	224	337
Less: Additions to intangible assets and property, plant, and equipment	208	455
Free cash flow	17	(118)

Capital Structure

Net debt is the difference between total debt and total liquidity. Adjusted net debt is net debt less *Pension plans and similar commitments*. For the calculation of net debt and adjusted net debt, see [A.2.4.3 Financing and Liquidity Analysis](#). The fact that debt and *Pension plans and similar commitments* are deducted from liquidity does not mean that liquidity can only, or primarily, be used to meet these obligations.

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Capital Structure Data

in € million

	September 30,	
	2019	2018
EBITDA OSRAM (continuing operations)	176	522
Net debt	(350)	(51)
Net debt in relation to EBITDA	(2.0)	(0.1)
Adjusted net debt	(516)	(213)
Adjusted net debt in relation to EBITDA	(2.9)	(0.4)

Equity Ratio

Equity Ratio

in € million

	September 30,	
	2019	2018
Total equity	2,083	2,676
Total assets	4,335	4,730
Equity ratio	48%	57%

Capital Commitment Period (Days Outstanding) for Net Operating Working Capital

Capital Commitment Period (Days Outstanding) for Net Operating Working Capital¹⁾

$$\begin{array}{l}
 \text{Inventories + trade receivables – trade payables} \\
 \hline
 \text{Revenue} \times 365 \\
 \hline
 \text{2019: } \frac{(692 + 558 - 548)}{3,464} \times 365 = 73.9 \qquad \text{2018: } \frac{(743 + 614 - 714)}{3,789} \times 365 = 61.9
 \end{array}$$

1) OSRAM (continuing operations).

A . 3

Events After the Reporting Date

Events Relating to the Public Takeovers Offers Made to the Shareholders of OSRAM Licht AG

On October 4, 2019, ams AG announced in a press release that the minimum acceptance threshold of 62.5% had not been reached. This threshold was set out in the takeover offer made by Opal Bidco GmbH to the shareholders of OSRAM Licht AG that had been published on September 3, 2019.

On October 7, 2019, Luz (C-BC) Bidco GmbH, Munich, Germany, announced in a statement that the takeover offer published on July 22, 2019, had expired because the minimum acceptance threshold specified therein had not been reached.

On October 18, 2019, the consortium comprising Advent and Bain Capital announced in a letter to OSRAM that it had decided not to continue with the due diligence on the Company and, for the time being, would not be pursuing the plan to make a voluntary public takeover offer for all outstanding OSRAM shares.

On October 18, 2019, ams AG announced that it would submit a new voluntary public takeover offer to all shareholders of OSRAM Licht AG through its wholly owned subsidiary ams Offer GmbH. The offer document was published on November 7, 2019 and the acceptance period ends at midnight on December 5, 2019. The offer price is €41.00 per share and the minimum acceptance threshold is 55%. In its reasoned statement pursuant to section 27(1) of the WpÜG, published on November 12, 2019, the Managing Board and the majority of the Supervisory Board recommended that the OSRAM shareholders accept the takeover offer made by ams Offer GmbH.

Other Events

On November 12, 2019, OSRAM announced that it would make further Company-wide process improvements and structural adjustments in the Automotive and Digital Business Units and in the central administrative functions so that it can react to the change in market conditions. These measures will give rise to personnel-related restructuring expenses in fiscal year 2020 that, as a minimum, are expected to be in the high-double-digit millions of euros.

These developments had no impact on the financial statements as of September 30, 2019.

Other than the above, no transactions of particular significance or with material effects on the net assets, financial position, or results of operations have occurred since the reporting date of September 30, 2019.

A . 4

Report on Expected Developments and Associated Material Risks and Opportunities

A.4.1 Report on Expected Developments

A.4.1.1 Future Economic and Sector-specific Developments

According to the latest forecasts from Consensus Economics, global economic growth is likely to be 2.5% in calendar year 2020 and thus slightly slower than in 2019. In the autumn forecast in its latest report on the global economy (World Economic Outlook, October 2019), however, the IMF predicts that global growth will accelerate slightly in 2020. Nevertheless, the IMF believes that the global economy still faces a variety of risks. Firstly, trade barriers and heightened geopolitical tensions—including Brexit-related risks—may continue to disrupt supply chains and thus reduce confidence as well as put the brake on capital expenditure and growth. Such tensions, along with other political uncertainties, might adversely affect projections. Should these risks materialize, risk sentiment could shift suddenly and reveal financial weak spots that have formed over the years due to low interest rates. Advanced economies' low inflation rates may become entrenched and limit the effectiveness of monetary policy. Secondly, climate change risks are increasing and may escalate dramatically in the future if they are not addressed without delay. The performance of the global economy has a direct impact on the most important macroeconomic indicators for the lighting market.

IHS Markit's forecasts for automotive manufacturing are negative, with a decrease of around 2% for our fiscal year 2020. This comes on the back of a clear decline in 2019. The risk of slower growth is regarded as relatively high because it is difficult to gauge both future demand and the effects of the trade disputes. Moreover, contraction of around 1.5% is expected for European automotive manufacturing in fiscal year 2020, approximately 1.7% for North America, and roughly 0.6% for China. A fall in production would have a direct impact on demand for lighting products for new vehicles.

According to the August forecast from the World Semiconductor Trade Statistics (WSTS) organization, the semiconductor market is expected to expand only slightly, by around 1%, in fiscal year 2020. There is likely to be a clear fall in the first quarter, followed by a clear recovery in subsequent quarters.

Regardless of economic influences on growth in the wider economy, the transformation of the global lighting market is continuing, with a shift away from traditional lighting toward semiconductor-based lighting. For example, the prevalence of LEDs in car headlights may potentially increase by up to 5 percentage points in the coming fiscal year. Moreover, virtually all lighting markets are experiencing a clear increase in networked and intelligent lighting solutions. The lighting market is forecast to grow at a slightly faster rate than the general economy.

We believe that the sector will become increasingly differentiated—with volume-driven markets on the one hand, in which consistently high quality and cost efficiency are crucial competitive factors, and technology-driven professional markets on the other, which are characterized by innovation, customer-specific solutions, and sustainable growth. For example, our automotive forecasts assume the continuation of the trend toward vehicles being fitted with higher-value equipment. Lighting products in vehicles should benefit disproportionately from this trend, which may lead to increased lighting technology revenue per vehicle. Besides products aimed purely at illumination, other photonics applications are benefiting from the technological shift. For example, double-digit growth rates are expected in markets such as LED plant lighting and lasers for optical sensors in vehicles.

A.4.1.2 Expected Revenue and Earnings Trends

The macroeconomic and sector-specific trends presented above show that OSRAM operates in fast-changing markets and that there are currently uncertainties about future market conditions. Consequently, we anticipate that OSRAM's comparable revenue growth (adjusted for currency translation and portfolio effects) will be in a range between –3% and 3%.

In fiscal year 2020, EBITDA and thus the adjusted EBITDA margin will be boosted by the application of IFRS 16 Leases from October 1, 2019. The currently expected effect on EBITDA from IFRS 16 of approximately €50 million has been factored into the forecast for fiscal year 2020.

For OSRAM (continuing operations) in fiscal year 2020, we estimate an EBITDA margin—adjusted for special items (mainly transformation costs)—of between 9% and 11%, the average of which would mean flat growth compared with 2019. We predict a moderate rise in the adjusted EBITDA margin for OS and DI, but a modest deterioration for AM. AM's adjusted EBITDA margin will be diluted by OSRAM CONTINENTAL, primarily due to a lower gross margin and high research and development expenses.

A.4.1.3 Expected Financing and Liquidity Situation and Planned Capital Expenditure

In the coming fiscal year, we anticipate positive free cash flow, possibly in the mid-double-digit millions of euros. One of the contributors will be OS, which will have a free cash flow that is well into positive territory. For AM, we expect a smaller positive free cash flow compared with that seen in fiscal year 2019. We predict that free cash flow at DI will be at around break-even level. Free cash flow is likely to be adversely affected by payments in connection with restructuring costs and M&A costs that will have an impact on the corporate functions and on the segments.

Free cash flow will be boosted by the application of IFRS 16 Leases from October 1, 2019. The currently expected effects on EBITDA from IFRS 16 have been factored into the forecast for fiscal year 2020.

For the coming fiscal year, we forecast that OSRAM will again have a stable financial profile that will provide sufficient room for maneuver to finance our business requirements in the years ahead.

A.4.1.4 Overall Assessment of Expected Developments

In addition to the macroeconomic trends presented above, our forecast is based on the OSRAM Licht Group's multi-year business plan. The following table provides an overview of our Group forecasts for our key performance indicators:

Expected Developments 2020¹⁾

	Initial position Fiscal year 2019	Expected developments Fiscal year 2020
Comparable revenue growth (adjusted for currency translation and portfolio effects)	–13.1%	–3% to 3%
Adjusted EBITDA margin²⁾ (adjusted for special items—mainly transformation costs)	8.9%	9% to 11%
Free Cash Flow²⁾	€17 million	positive free cash flow, possibly in a mid-double-digit million-€-range

1) The information presented in the table relates to OSRAM (continuing operations).

2) The initial position (fiscal year 2019) is not directly comparable with the expected developments for 2020 in respect of the adjusted EBITDA margin and free cash flow, because these two KPIs will be boosted by the application of IFRS 16 Leases from October 1, 2019. IFRS 16 has to be applied prospectively, so the 2019 prior-year figures will not be restated.

We have not taken into account the economic risks presented under the economic and sector-specific developments, nor have we taken into account a possible recession scenario. Our forecast is based on current exchange rates, especially against the U.S. dollar, Malaysian ringgit, and Chinese renminbi. Our planning also assumes that the technology shift and, potentially, adverse price trends will materialize at a certain rate. In the business planning for OSRAM CONTINENTAL, the estimates of future purchase prices contain uncertainties.

Our forecast for fiscal year 2020 does not contain any predictions for a hard Brexit scenario. Overall, the direct risk to the Company in relation to revenue generated in the United Kingdom is seen as very small. The procurement risk is negligible.

With regard to international trade, the forecast does not contain any predictions for additional increases in tariffs or for further expansion of their scope of application. Moreover, we have not factored any effects of a possible takeover by ams Offer GmbH into the forecast.

This forecast is based on the fundamental assumption that our newly developed products will be successful in the market. Furthermore, the impact of legal and regulatory issues is not taken into account in this forecast.

Any deviations from these assumptions, or the materialization of any risks or opportunities, may result in discrepancies between the forecast and actual business performance.

A.4.2 Report on Risks and Opportunities

A.4.2.1 Risk and Opportunity Management System

OSRAM uses systematic risk and opportunity management (hereinafter ‘risk management’) to identify, assess, and manage risks and opportunities. We use a coordinated set of risk management and control systems that support us in the early recognition of risks jeopardizing OSRAM’s continued existence as a going concern or the achievement of our strategic, operating, financial, and compliance goals and targets, and in implementing the necessary measures. This also applies, conversely, to opportunities. The Supervisory Board’s Audit Committee is responsible for monitoring the effectiveness of this system. Group Internal Audit also reviews compliance with the corporate policies regarding risk management in its regular audits of selected entities. The findings of these audits are taken into account in the continuous improvement process for our risk management system. This ensures that we have an appropriate and effective risk management system that keeps the Managing Board and Supervisory Board fully and promptly informed of material risks and opportunities.

Our risk management system is based on a comprehensive, interactive, and management-oriented Enterprise Risk Management (ERM) approach, which builds on the globally recognized Enterprise Risk Management—Integrated Framework developed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The ERM process is thus connected with the Group’s financial reporting process and closely integrated with our internal control system, which consequently incorporates corporate strategy, the efficiency and effectiveness of our business operations, the reliability of our financial reporting, as well as compliance with relevant laws and regulations.

The risk management system aims to ensure that all relevant business risks and opportunities throughout the Group are captured. Any event that can have a (negative or positive) influence on business performance beyond the scope of our business planning represents a risk or an opportunity. The time frame is generally three years.

In order to ensure a comprehensive assessment, the bottom-up identification and assessment process is flanked by quarterly discussions with the management teams of the business units and relevant corporate functions (top-down process). This top-down element ensures that potential new risks and opportunities are discussed at the management level outside of regular reporting and, if relevant, are included in the reporting process. Reported risks and opportunities are analyzed for potential cumulative effects and aggregated in the OSRAM risk/opportunity register. Reporting generally takes place on a quarterly basis, but is complemented by ad hoc reporting as necessary.

In order to determine the significance of risks and opportunities for OSRAM, we assess them based on both their impact on our business activities and their likelihood. We use the net principle, meaning that we assess risks in the context of measures that have already been implemented and taken effect. Measures that are planned or are in the process of being implemented do not reduce gross risk.

Based on the assessment, risks are classified as ‘major,’ ‘high,’ ‘medium,’ or ‘low.’ We do not quantify risks in monetary terms at overall Company level.

We define responsibilities for all reported risks and opportunities. The designated person first decides on a general response strategy and then develops, implements, and monitors specific and appropriate response measures. For example, we take out appropriate insurance policies against potential cases of damage and liability risks in order to reduce our exposure and to avoid or minimize possible losses.

The Managing Board has grouped responsibility for risk management and the internal control system in a corporate department to ensure the integration and harmonization of existing control activities in line with legal and operating requirements. This department produces a quarterly report on the material consolidated risks and opportunities, which the Managing Board uses to evaluate the risk and opportunity situation across the Group.

A.4.2.2 Risks

Below, we describe the risks that could have particularly adverse effects on our business, and on our net assets, financial position, and results of operations, or that are highly likely to occur. Of the strategic and operational risks reported below, nine are classified as ‘high’ while the final two operational risks are classified as ‘medium.’ The order in which they are presented within the categories reflects the current estimate of the relative exposure and thus gives an indication of the significance of these risks at present for OSRAM. The estimate of the level of risk may change over time. At present, we do not expect to incur any risks that in isolation or in combination would appear to jeopardize our continued existence as a going concern. The identification and assessment of some of the risks described in the previous year have changed. Compared with the previous year, for example, we believe there are higher risks created by the macroeconomic situation. The situation in our core markets—particularly in China and the U.S.A., but also in Europe—therefore remains uncertain, which is why we think that the risk of reduced economies of scale remains as high as it was at the end of fiscal year 2018. Smaller volumes and reduced capacity utilization in our plants may cause our overhead cost and production cost structure to deteriorate and thus adversely affect our net assets, financial position and results of operations. This is compounded by the risk that the transformation programs under way are insufficient and that the organizational structure and its management are not being adapted to new business models quickly enough. Compared with the previous year, the challenges of managing the Group portfolio and operational risks in connection with the shortage of qualified employees are regarded as higher.

Where it is not explicitly stated that a risk relates to an individual segment, the risk described concerns the OSRAM Licht Group as a whole. Our luminaires business in Europe (Siteco) was sold on October 1, 2019. Previous risks arising from the former luminaires business in Europe are thus no longer among the risks to our Company.

Strategic Risks

Economic Situation

Changes to the general economic environment led to a significant fall in demand for our products in the past fiscal year and, consequently, a decline in our revenue and earnings. This trend may continue in the future. Our products are used in a wide variety of lighting application segments, particularly in the automotive sector and in the general lighting sector, i.e., residential, office, hospitality, outdoor, architectural, and industrial lighting and the entertainment industry. In addition to lighting, we are increasing our focus on sensors, visualization, and light-based treatments, providing products for all kinds of applications in our specialist fields of transport, safety, connectivity, and health and well-being. Furthermore, as our main sales markets are in the U.S.A. and China, economic developments in these regions have the greatest impact on our business activities. In particular, further escalation of the current U.S./Chinese trade dispute—in which key high-tech companies backed by the Chinese government are being deliberately targeted in some cases—and the stepping up of protectionist measures, e.g., against Mexico and Europe, may adversely affect revenue and earnings. Moreover, the impending Brexit and the resulting ongoing uncertainty, as well as the re-emergence of the debate about government debt, might affect OSRAM’s European business. The evolution in the automotive industry may lead to a decrease in new vehicle registrations in the medium term. In this context, there is also a risk that automotive manufacturers may change the priorities for development projects and for the introduction of technologies in the field of vehicle electrification.

We continually monitor early warning indicators so that we can develop effective response strategies and adjust them regularly.

To counteract the above-mentioned effects, one of the things that is becoming very important is an efficient procurement organization. We also regularly review our value chain, i.e., our global and regional presence, and our processes in order to identify potential cost savings and to adapt our global and regional reach accordingly. By doing so, we aim to make cost savings and operational improvements that will allow us to avoid customs tariffs and offset falling selling prices, rising commodity and energy prices, and higher wage costs. Due to our business environment, we also make conscious investment decisions based on careful consideration about whether to make or buy.

Failure to implement the necessary measures may have a clear adverse effect on our business activities and on our net assets, financial position, and results of operations.

Market Dynamics and Competitive Environment

Developments in the lighting industry may lead to more consolidation and commoditization. We see an increased risk of consolidation, particularly at the start and in the middle of the value chain, due to slower market growth and strong competition. There is also a risk that manufacturers will have fewer opportunities to differentiate themselves on the basis of technological expertise or brand value. This may cause prices to decline more than we expect, which would impact on our earnings. This risk affects all three segments (OS, AM, and DI).

As a result, we can see a situation in which manufacturers of LED components and products, particularly for general lighting, are forced to differentiate themselves more on price than was previously the case, leading to a price war between competitors who want to fully utilize their production capacity and are pursuing a strategy of gaining market share. It should be borne in mind in this context that some participants in the volume market for general lighting LED chips receive public subsidies, which they can use to their advantage in order to compete on price. We believe that this risk particularly affects the large-scale capital expenditure that we are carrying out in connection with the building up of semiconductor manufacturing capacity in Kulim, Malaysia. In turn, this may lead to declining economies of scale in relation to the level of fixed costs.

Furthermore, if the downturn in traditional lighting products continues to accelerate, the affected segments may experience further overcapacity and have to differentiate themselves more on price.

If we cannot fully offset these price reductions by selling larger quantities of products or increasing our market share, we will need to improve productivity and lower our costs. We therefore regularly check whether we can offset existing price risks by taking steps to increase productivity and reduce costs [› A.2.2 Events and Developments Responsible for the Course of Business](#) and [› A.2.3 Results of Operations](#).

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That is why ongoing streamlining, renewal, and diversification of the product portfolio, along with more targeted spending on research and development, are needed in order to secure a technological edge and ensure that existing capacity is utilized profitably. The pooling of OSRAM's and Continental's expertise in lighting, light management, and electronics enables us to offer intelligent vehicle lighting solutions from a single source. Further strategic alliances are conceivable as a way of making the transition from an LED component manufacturer to a systems provider.

Failure to implement the necessary measures might have a clear adverse effect on our business activities and on our net assets, financial position, and results of operations.

Market Developments and the Technology Shift

The lighting industry is undergoing a far-reaching technology shift toward semiconductor-based lighting. Moreover, virtually all lighting markets are experiencing a clear increase in networked and intelligent lighting solutions. This shift is changing the market, which may have a material impact on our competitive position. The speed and extent of this shift are uncertain. These developments affect all segments except for OS.

The shift could mean that, in certain circumstances, we are unable to quickly offset stronger than anticipated contraction in the traditional market by increasing our revenue from LED products. This particularly applies in markets where we hold a leading market position based on our traditional products. We also see the risk of a strong decline not only in the traditional headlight bulbs used in the automotive industry, such as halogen and xenon, but also in conventional light management products, with a shift toward intelligent solutions and networked platforms (Internet of Things). In addition, some of our established market access points could be replaced, which would impact on our competitive position.

As well as monitoring early warning indicators, we counter the risk with specific measures aimed at strengthening our cost position and competitive position in the traditional products business. In this context, we constantly check whether we need to adjust our production capacity.

By bringing together our various light management activities (industrial and office) in the DI Segment, we are strengthening our positioning as a provider of digital infrastructure and, at the same time, leveraging synergies.

The successful disposal of our luminaires business in Europe and our luminaire service business in North America enables us to operate more flexibly in the market and improves our strategic options.

Failure to implement the identified measures might have a clear adverse effect on our business activities and on our net assets, financial position, and results of operations.

Adjustments to the Organization and the Industrial Footprint

The current softening of demand, for example in our business with customers from the automotive industry, has resulted in restructuring and transformation activities. OSRAM is reacting to the contracting markets with measures aimed at making our processes faster and more efficient and at reducing our fixed cost base

➤ **A.2.2.3 Other Significant Events Responsible for the Course of Business.** The risk attaching to these transformation activities is that too many of the affected resources (particularly management resources and employees) will be tied up during implementation of these measures, temporarily compromising the operational performance of our business and delaying the strategic realignment that is needed in parts of our business. We are mitigating this risk by stepping up operational risk management.

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In addition, there is a risk that the action plan decided upon is insufficient or falls behind schedule. Inadequate or delayed implementation of, for example, measures relating to manufacturing facilities or involving large-scale relocation of processes or organizational changes could also make us less competitive. The cost-saving and transformation activities that we have announced could also lead to risks relating to personnel, processes, and systems. Changes to our organization or our industrial footprint could meet with resistance from the affected employees.

We try to manage this by designing programs with the minimum possible social impact. When our European luminaires business was spun off, it was contractually agreed that the new owners would not withdraw any capital or pay any dividends in the 36 months after the acquisition (financial preservation period).

The necessary adjustments are also accompanied by extensive communications activities.

Failure to implement the necessary measures may have an adverse effect on our business activities and on our net assets, financial position, and results of operations.

Strategic Product Planning

The technological shift toward semiconductor-based lighting means shorter lifecycles for our products. This leads to greater demands being made in terms of the quality of strategic product planning and the speed and efficiency of the day-to-day product development processes. We particularly see a risk that processes for planning and developing products are not optimized promptly and sufficiently in all areas to be able to meet these new demands. This may impact on the competitiveness of our products in terms of cost position and technical performance and may lead to gaps in the product portfolio if we are unable to replace products being discontinued with new ones at the necessary speed. Moreover, we may lose market share, leading to revenue shortfalls, if our competitors succeed in developing their products and alternative technologies more quickly or with better technical features. This risk affects all three segments (OS, AM, and DI) and is associated with a high volume of capital expenditure for new technologies and products.

For this reason, we continually optimize the efficiency of our process and system landscape for day-to-day product development.

Fierce competition to introduce new technologies creates the risk that market shifts and changed customer requirements are not factored into strategic product planning and operational product creation processes promptly and sufficiently. The same is true if alternative products or technologies are launched on the market that are more attractively priced, of a higher quality, or more functional or, for other reasons, are more competitive than ours.

We counter this risk with specific measures, for example by intensifying market analysis activities, regularly reviewing the technology fields and research and development projects, and sharpening their focus where necessary. Furthermore, we make targeted acquisitions and equity investments in companies offering innovative solutions and technologies that complement our existing product portfolio.

Failure to ensure the success of our measures might have a clear adverse effect on our business activities and on our net assets, financial position, and results of operations.

Adjustments to the Business Model

The shift toward semiconductor-based products in the lighting industry is having significant effects on our competitive position and thus on the demands placed on our business model for the reasons explained below; in this context, distinguishing between light-generating LED components and LED-based products/systems is important, as is the development of intelligent and networked products with specific software applications. We see a risk that we do not manage to position our organization and our processes quickly or adequately enough to be able to operate successfully in this new market environment. The trend toward long-lasting and efficient light sources will lead to lower replacement demand. Selling LED products and complete systems, as well as supplying such systems to original equipment manufacturers, is likely to become more important and take over from the supply of replacement lamps. We must therefore align our research and development resources even more closely with this trend. Moreover, we need to adapt and retrain our sales force in order to develop the necessary technical know-how so that we can respond to the new requirements of a business model focused on new installations.

Since the development of intelligent and networked products with specific software applications is becoming an increasingly important part of both the lighting market and our product portfolio (as compared to lamps and replacement lamps), we will need to develop the expertise required to meet this expected shift in demand. This includes establishing new (digital) distribution channels and making our development processes more agile.

The shift from a provider of LED components to a player offering complete systems is to be accomplished by aligning sales and development activities more closely with customer needs. Going forward, the OS Segment is to be increasingly managed on the basis of end-to-end, customer-centric processes.

Our subsidiary OSRAM CONTINENTAL has a number of corporate functions, processes, and systems that support its business model. However, this creates the risk of a high degree of organizational complexity and high fixed costs. This makes it more difficult to generate economies of scale and achieve profitability targets. To mitigate this, the defined growth targets must be reached.

Failure to implement the necessary measures might have a clear adverse effect on our business activities and on our net assets, financial position, and results of operations.

Management of the Portfolio of Companies

We regularly adjust our Group portfolio by acquiring or making equity investments in companies, and by disposing of parts of our Company, in order to define our profile more clearly and focus on high-tech sectors offering long-term growth opportunities.

In fiscal year 2019, we again expanded our portfolio. The acquisition of Ring Automotive, Leeds, Great Britain, an aftermarket specialist in lighting, electronics, and accessories for vehicles, widens our range of products and services in the AM Segment.

In addition, we are investing in promising start-ups with innovative technologies and business models through our venture capital arm, Fluxunit. One of these is our equity investment Recogni, Inc., Cupertino, California, U.S.A., which specializes in developing powerful AI processors with low energy consumption for edge computing used in autonomous driving.

The expansion of the Group portfolio, and its growing complexity, make it more difficult to achieve planned synergies through our existing integration and portfolio management processes.

When we acquire a company, we draw up a customized integration plan to ensure that we can achieve the anticipated benefits of adjusting the portfolio. To this end, we deploy cross-functional teams and have established a system of tracking and reporting on the achievement of synergies that is based on the expertise of our central M&A department.

Residual costs resulting from the separation of our luminaire business and the disposal of the North American luminaire service business (SLS) may arise, particularly at our national subsidiaries and in our corporate functions, if we are unable to adapt our organizational structure and cost basis to the changes in the portfolio. Therefore, we also undertake restructuring to address any negative effects on our cost structure that might arise as a result of the portfolio adjustments > [A.1.1 Business Activities and Structure of OSRAM Licht Group](#).

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Failure to implement the necessary measures might have a clear adverse effect on our business activities and on our net assets, financial position, and results of operations.

Operational Risks

Shortage of Qualified Employees

Competition for qualified employees among companies that rely heavily on engineering and technology is intense. The loss of qualified employees or an inability to attract, retain, and motivate highly skilled employees required for the operation, transition, and expansion of our business could limit our ability to conduct research successfully and to develop and sell marketable products. Competition for qualified personnel is particularly intense in the areas of research and development, engineering, sales, and the project business (e.g., qualified LED salespeople).

We could also lose experienced managers who are important to our business and for the structural changes required. We particularly see challenges in securing key employees in Asia and the U.S.A. Various redundancy schemes, including in research and development at OS, and several attempted takeovers—all of which have been unsuccessful so far—are making it increasingly difficult to fill managerial vacancies and other key positions.

Succession planning, identification and encouragement of talent, and dedicated employee development programs are therefore a focus for us worldwide. They include our concept for developing talent and our Open Mentoring program. We have also expanded our social media presence and are using these channels to recruit new employees in order to secure our position as an attractive employer for the long term. In fiscal year 2019, we were awarded Top Employer Germany certification. We are also active in the area of employer branding, one example being our initiative #TheNewOSRAM.

Failure to implement the necessary measures may have an adverse effect on our business activities and on our net assets, financial position, and results of operations.

Supplier and Procurement Market Risks

Because we are a manufacturing company with a broad product range, we obtain the various materials and services from a large number of suppliers. It is not possible in every case to arrange a number of alternative suppliers in addition to our preferred supplier. In certain areas, we are therefore reliant on individual suppliers' quality and ability to deliver. Should one or more of these suppliers not fulfill its obligations, shortages may arise in the production process and thus impair our own ability to deliver our products. In the business planning for OSRAM CONTINENTAL, the estimates of future purchase prices contain uncertainties.

We counter the risks by means of forward-looking inventory management and procurement management. The main elements of this are long-term supply agreements, price escalation clauses, and constant monitoring of leading indicators for negative developments in commodity markets. Besides certifying alternative suppliers of critical commodities and components and closely monitoring the remaining dependencies, we are continually developing strategies that enable us to react to price rises and shortages.

Failure to implement the necessary measures might have a clear adverse effect on our business activities and on our net assets, financial position, and results of operations.

Security of the System Landscape

As the digitalization of our business models and processes continues, our system landscape is playing an ever-more important role. We are increasingly using Internet-based applications and offer Internet-based products in order to provide greater benefits for customers and make our products and processes more efficient. At the same time, more and more regulatory requirements are being introduced worldwide concerning the protection, integrity, and availability of data. As well as guarding against the possible loss of business information and intellectual property, we have to ensure that the personal data we hold is safe. In this context, we focus both on external cyber-attacks on our IT systems and on problems caused by a lack of awareness within our organization. Not only could data be stolen by third parties, there is also a risk of data loss as well as significant time and expense involved in restoring the data.

Attacks on our IT systems, or their improper use, may also lead to downtime that would significantly affect our business operations. The failure of one of our ERP systems or even one of the smaller systems may have negative consequences, including production stoppages, disruptions to the supply chain, and the unavailability of products.

We counter these risks by relocating IT systems and applications to cloud solutions that are protected by adequate security measures and by conducting independent tests on the vulnerability of our IT systems. Moreover, we run regular training courses for our employees.

Failure to implement the necessary measures may have an adverse effect on our business activities and on our net assets, financial position, and results of operations.

Quality Risks

Ensuring that our products meet market-specific and customer-specific requirements is crucial to our Company's success. The risk of possible quality defects is rising due to the growing complexity of product and manufacturing processes and due to the shorter development cycles. Poor-quality products can lead to high direct costs if our customers have to recall their products, especially in the automotive industry. This could also indirectly harm our reputation.

We counter this risk with robust Group-wide quality processes that are audited inhouse and by our customers at regular intervals in accordance with established standards (e.g., ISO 9001 and IATF 16949). The processes are also certified by external companies. We have set up an effective system for reporting quality defects and product safety incidents to ensure that we can take action promptly.

Failure to implement the necessary measures might have an adverse effect on our business activities and on our net assets, financial position, and results of operations.

Financial Market Risks

The OSRAM Licht Group is exposed to a variety of financial market risks. Market price fluctuations may result in significant volatility in earnings and cash flow. The market risks relevant to OSRAM include currency risk, interest rate risk, and commodity price risk. Changes to exchange rates, interest rates, and commodity prices can impact both on operating business and on the investing and financing activities of the Group.

As a company with global operations, we conduct transactions in a variety of currencies. This creates risks from fluctuations in exchange rates, both in operational business (transaction risk) and in financial reporting. The latter is exposed not only to transaction risks but also to effects from translating amounts into the Group's reporting currency, which is the euro. Exchange rate volatility may have an adverse impact on earnings, equity, and cash flow. Our organizational structure means that we are mainly exposed to changes in the euro exchange rate against the U.S. dollar, the Malaysian ringgit, and the Chinese renminbi. Possible changes to monetary policy measures and a shift in the political and economic climate may result in heightened volatility in the future.

All financial market risks are continuously monitored and managed separately by our Treasury department, and a variety of strategies, particularly the use of derivative financial instruments, are employed to reduce them > [Note 29 | Financial Risk Management](#) in B.6 Notes to the Consolidated Financial Statements.

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Legal and Compliance Risks

Like other global companies, OSRAM faces various legal and compliance risks. These include risks arising from legal disputes and compliance issues, from the breach of industrial property rights, and from failure to comply with regulatory requirements.

The OSRAM Licht Group and its subsidiaries are involved in various court cases, claims, and investigations by authorities. These could lead to costs for OSRAM as a result of claims for damages, reworking orders, recalls, fines, or other financial disadvantages. It might also suffer reputational damage.

As we do ourselves, many of our competitors, suppliers, and customers protect their technologies using patents and other intellectual property rights. If claims for the alleged breach of intellectual property rights are enforced, we might have to pay compensation, purchase licenses, or limit the marketing of our products. Defending ourselves against such claims may lead to high legal costs. We reduce our risk by entering into cross-licensing agreements with key competitors, although there is no way of contractually protecting ourselves against patent brokerage firms.

We are also subject to extensive government regulation worldwide, such as in the areas of environmental protection, product safety, and working conditions. Depending on the circumstances, failure to comply with the applicable rules may lead to significant fines and reputational risk. To prevent this as far as possible and to anticipate future regulatory changes as soon as possible, we have central departments that monitor changes to legislation worldwide and help with implementing the necessary processes and controls at country level.

If necessary, OSRAM also recognizes provisions for legal proceedings. Where it makes financial sense, some of the risks are additionally covered by insurance. For an overview of significant legal proceedings, see > [Note 25 | Legal Proceedings](#) in B.6 Notes to the Consolidated Financial Statements. Furthermore, OSRAM has established a Group-wide compliance management system in order to avoid and identify any compliance-relevant issues rapidly.

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A.4.2.3 Opportunities

We also regularly identify, evaluate, and respond to the opportunities arising for OSRAM using our comprehensive, interactive, and management-oriented ERM approach. The assessment methodology is the same as that applied to the assessment of risks. Of the opportunities reported below, three of the strategic opportunities are classified as 'high' and five as 'medium.' The two operational opportunities are classified as 'medium.' The order in which the opportunities are presented within the categories reflects the current estimate of the relative degree of opportunity and thus provides an indication of the opportunities' current importance for OSRAM. The estimate of the degree of opportunity may change over time. Compared to the previous year, changes have occurred with respect to our opportunities.

For example, we rate the opportunities more highly that arise from reducing the complexity and costs of products and manufacturing processes and from potential for expansion into adjacent market segments. We also believe that greater opportunities are offered by increasing the efficiency of our development processes and by sharpening the focus of the product portfolio and expanding it in a strategic manner.

Conversely, the opportunities presented by using subsidies and unlocking the benefits of end-to-end process responsibility are currently considered to be lower.

Where it is not explicitly stated that an opportunity relates to an individual segment, the opportunity described concerns the OSRAM Licht Group as a whole.

Strategic Opportunities

Production Capacity and Efficiency

We currently have cutting-edge production facilities in Europe and Asia thanks to strategic investments for the future at OS. However, we believe there are considerable opportunities for optimizing operational excellence. To this end, we used the Hoshin Kanri method for corporate planning and management to define various three to five-year breakthrough objectives in order to reduce the complexity of our products and manufacturing processes and thereby lower our manufacturing costs. Achievement of these objectives will pave the way for profitable growth when market conditions and unit sales improve.

While the more protectionist economic and trade policies of the U.S.A. are generally bringing with them the risk of a softening of global growth and could restrict OSRAM's supply chain, given that it has manufacturing operations worldwide [▶ A.2.2.1 Macroeconomic Developments](#), we see advantages in that we have relatively extensive production capacity in the U.S.A. If the U.S. administration were to take further steps to strengthen the domestic economy, imports may become even more expensive in the sectors relevant to us. However, this would make those of our products that we manufacture in U.S. production facilities (e.g., automotive products in Hillsboro, U.S.A.) even more competitive, because their cost position would improve relative to our competitors whose value creation processes are entirely outside the U.S.A.

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If these opportunities materialize, they might have a clear positive impact on our business activities and on our net assets, financial position, and results of operations.

Expansion into Adjacent Market Segments

We offer future-oriented products and solutions along the entire lighting value chain. In addition to the products and solutions already available, we have ideas and development projects for what are currently white spaces on the map, such as intelligent lighting or applications above and beyond light. We see the opportunity here for further growth in market segments that do not belong to the traditional lighting value chain. This includes, in particular, areas relating to sensors, biometrics, entertainment, and smart farming.

We are able to benefit here from our strong position in research and development. This is also demonstrated by the external awards that we have won and underlines our long-term goal of technological leadership.

If this opportunity materializes, it may have a positive impact on our business activities and on our net assets, financial position, and results of operations.

Accelerated Introduction of New Products and Technologies

Our systematic, forward-looking investments in innovative technologies, above all in the field of photonics and micro-LEDs, may help to strengthen our market position. Our efforts also extend to optimizing our business processes. We want to structure our processes in such a way that we can launch products more quickly that may give us a competitive edge and thus allow us to achieve higher price points.

To take advantage of this opportunity, we use an integrated product roadmapping process that is based on an analysis of trends as well as of market and customer requirements. In all segments, we also continually improve the efficiency of the product development and market launch processes.

If this opportunity materializes, it may have a positive impact on our business activities and on our net assets, financial position, and results of operations.

Growth of Market Share in China

China's size, market potential, and growth rates make it one of OSRAM's most important sales markets. It is crucial that we monitor developments in the country and unlock potential for growth in all segments. Although growth has tailed off a little recently, China's car market, for example, remains a core sales market, including for our cutting-edge technologies. Despite greater competition from local competitors, we still see an opportunity for significantly expanding our business in China. To do so, we want to increase our existing footprint and position ourselves as a partner to Chinese industry in order to step up existing business, such as in the automotive sector, and to tap the potential for additional unit sales.

Besides the premium market segment, there are other customer target groups where the main purchase criterion is price. This market segment is particularly significant for consumer applications and the automotive sector. We believe that adapting product specifications to local standards and improving our cost position in the low price segment to offer lower selling prices, particularly in the fast-growing Chinese market, offers opportunities to generate profitable business. This could be achieved with local product development, local production or contract manufacturing, or by purchasing local products.

If this opportunity materializes, it might have a positive impact on our business activities and on our net assets, financial position, and results of operations.

Future-proof Group Portfolio

In addition to expanding our Group portfolio by means of acquisitions and strategic partnerships [› A.2.2.3 Other Significant Events Responsible for the Course of Business](#), there are also opportunities for separating or disposing of areas of business that are no longer part of our core business. By slimming down our portfolio in this way, we can sharpen our focus on fast-growing markets of the future and define our profile as a high-tech and photonics company more clearly. The operational advantages primarily lie in reducing the complexity of portfolio management and generating proceeds from the sale of these areas of business.

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Conversely, the separated parts of the Company benefit because they can concentrate on their core business and potentially have more flexibility because of their smaller size, providing a greater chance of growth and returns. Parts of the Company may also be able to strengthen their market position by teaming up with a strategic partner in a joint venture.

If this opportunity materializes, it might have a positive impact on our business activities and on our net assets, financial position, and results of operations.

Strategic Partnerships and Acquisitions

Our present organization means we are well positioned to deploy our know-how and provide integrated solutions. To further exploit our potential, we may also consider selected value-adding acquisitions, joint ventures, and partnerships in the future.

To ensure we can utilize this opportunity, we constantly review the market for appropriate investments to achieve organic growth and growth by acquisition. We see particularly good opportunities for specific partnerships in relation to our OS Business Unit, for example in the field of micro LEDs. Besides the acquisitions and equity investments carried out in fiscal year 2019 [› A.2.2.3 Other Significant Events Responsible for the Course of Business](#), partnerships in the AM and DI Segments might also give rise to opportunities.

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If this opportunity materializes, it might have a positive impact on our business activities and on our net assets, financial position, and results of operations.

Strengthening of End-to-end Process Responsibility

The current initiatives for increasing business acumen, cross-segment collaboration, and clarity with regard to roles and responsibilities are aimed at establishing greater end-to-end responsibility for our business processes. We are thus evolving from an organization consisting of decentralized activities within a structure focused on the individual segments into an organization in which similar activities are grouped together centrally, particularly in those areas that do not directly contribute to value creation. Expertise is being pooled and, by assigning clear responsibilities for processes, collaboration between all segments is becoming easier. This model should result in more effective processes that are standardized and scaled to a greater degree but, at the same time, take account of the individual requirements in the different areas of business and countries. By establishing clear responsibilities and closer collaboration and by reducing those activities that are redundant or do not add value, we can plan our processes more efficiently and make them more customer-focused. Moreover, the different areas of business can focus on their particular fields of expertise, such as research and development. Within the segments too, potential from centralizing responsibilities and harmonizing processes can be unlocked, for example by merging the development organizations at OS.

If this opportunity materializes, it might have a positive impact on our business activities and on our net assets, financial position, and results of operations.

Opportunities Related to Organizational, Process-related, and IT System-related Improvements

Continuous improvement of key business processes with respect to agility, speed, and cost-efficiency is essential to ensure our sustained profitability. We believe that we have not yet fully exhausted the possibilities for further optimizing our cost structures, our system landscape, and the quality of our business processes within the Group. It is therefore our goal to make our organization more efficient and effective through harmonization and consolidation. We also want to streamline and thus optimize our global processes in light of the digital transformation. A key cornerstone will be provided by the preliminary SAP S/4 Hana project that is planned for the coming fiscal year. We also believe the automation of repetitive processes offers potential.

We see further potential for organizational improvements in the streamlining of our sales structures and making them more customer-focused, with the aim of ensuring better and faster customer service. Furthermore, we can continue to forge ahead with digitalizing the sales organization, and we plan to improve the forecasting of sales figures by using statistical methods.

If this opportunity materializes, it might have a positive impact on our business activities and on our net assets, financial position, and results of operations.

Operational Opportunities

Public-sector Subsidies

As an innovative company that has significant production capacity worldwide and carries out research and development at our German locations, we are helping to secure not only our own future but also that of others. Various public-sector bodies, such as the German government, the European Union, and the Chinese government, regularly provide subsidies, grants, and other relief in order to support capital expenditure in innovative areas.

We systematically check whether we qualify for such support, particularly in the case of new capital expenditure projects, and submit the necessary applications. We ascertain what support is available not only in Europe but at all our locations. Furthermore, we systematically monitor compliance with the disbursement requirements.

If this opportunity materializes, it might have a positive impact on our business activities and on our net assets, financial position, and results of operations.

Personnel Opportunities

The transformation of the lighting market and the resulting shift in the business model from a vertically integrated lighting manufacturer toward a high-tech photonics player are also altering the organizational structure and culture of OSRAM. To be able to deal with existing challenges adequately, OSRAM needs, more than ever before, flexible and motivated employees who are willing to remain committed to the Company over the long term. To foster this process, we have launched a number of projects with our employees aimed at enhancing our organizational structures, communications, and corporate culture. These projects have resulted in measures that are helping to harmonize processes and underpin our management culture. We are also constantly refining OSRAM's employer brand. This enables us to live up to the increasingly high expectations of job seekers regarding the attractiveness of employers.

These projects and the measures described form the cornerstone of the realignment of HR work at OSRAM. We firmly believe that, with these measures and, above all, with the help of our skilled and committed employees and managers, we will succeed in realigning OSRAM.

If this opportunity materializes, it might have a positive impact on our business activities and on our net assets, financial position, and results of operations.

A.4.2.4 Overall Assessment of Risks and Opportunities

The OSRAM Licht Group consolidates all of the risks and opportunities reported by the various countries, business units, and corporate functions in its quarterly risk and opportunity assessment process. There were significant changes to the overall assessment of risks and opportunities at Group level compared to the prior year.

Significant risks are posed by a further strengthening of protectionist measures, particularly between the U.S.A. and China, and the resulting gloomier macroeconomic situation. This may lead to a further and sustained decrease in orders from customers, especially those in the automotive sector. Another significant risk stems from the faster rate of change in the market and from the competitive environment that may be created by increased consolidation and commoditization and will be compounded by the excess capacity that exists in the semiconductor industry. There are also particular risks from the advancing technological shift toward LED technology (and the resulting decline in demand for traditional light sources) and the failure to implement—or delays in implementing—defined countermeasures. The changes to the organization and industrial footprint that this necessitates might have a negative impact on operational processes. The technological shift continues to bring with it shorter product lifecycles. This leads to greater demands being made in terms of the quality of strategic product planning, the speed of product development processes, and the restructuring of the Group portfolio. With regard to supplier and procurement market risks, the estimates of future purchase prices in the business planning for OSRAM CONTINENTAL contain uncertainties.

Conversely, we continue to believe that good opportunities are presented by entering into partnerships and making strategic acquisitions, particularly in the LED segment.

Moreover, the Chinese market offers substantial opportunities for growth, while the local production capacity that exists in the U.S.A. may mitigate the effects of the tariff dispute between the U.S.A. and China. We also think there is an opportunity for further growth in market segments that extend our traditional value chain. The sharpening of our technology portfolio's focus and efficiency improvements in our product development processes will help in this context. We continue to see opportunities for receiving public-sector subsidies for investment in new technologies, the building up of production capacity, and measures to create employment. Taking into account the likelihood and the potential impact of the risks described in this report, and given our sound financial position and current business outlook, the Managing Board does not foresee any material danger to the OSRAM Licht Group's continued existence as a going concern. This assessment is also underpinned by our financing structure [▶ A.2.4.3 Financing and Liquidity Analysis](#).

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The Managing Board remains confident that the Group's earnings power forms a solid basis for our future business performance and provides the resources needed to pursue the opportunities available to the OSRAM Licht Group. From the current perspective, the Managing Board considers that the risks described above are manageable and do not, either individually or together, appear to endanger the OSRAM Licht Group's continued existence as a going concern.

The risks and opportunities described above do not include additional risks and opportunities, or changes to risks and opportunities, that may arise for OSRAM after a possible takeover by ams Offer GmbH. Examples of such risks are financing risks and integration risks. The main potential opportunities include synergies in terms of revenue and costs.

A.4.2.5 Key Features of the Accounting-related Internal Control and Risk Management System

The following information contains disclosures in accordance with sections 289(4) and 315(4) of the *Handelsgesetzbuch* (HGB—German Commercial Code) and an explanatory report.

The overarching objective of our accounting-related internal control and risk management system is to ensure that financial reporting is carried out correctly so that the consolidated financial statements and combined management report comply with all relevant requirements.

The accounting-related internal control system ('control system') used by OSRAM is based on the same framework developed by COSO as our ERM system [▶ A.4.2.1 Risk and Opportunity Management System](#). The two systems are complementary and can each reveal gaps or risks within the other, contributing to their elimination or avoidance.

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OSRAM Licht AG's management team is responsible for establishing and effectively maintaining appropriate controls for financial reporting, and examines the appropriateness and effectiveness of the control system at the end of each fiscal year. The management team established the effectiveness of the internal controls for financial reporting as of September 30, 2019. However, every control system has certain limitations in terms of its effectiveness. No control system—even if it has been assessed as effective—can prevent or uncover every instance of inaccurate data.

The conceptual framework for preparing the consolidated financial statements largely consists of the uniform Group accounting policies and the chart of accounts, which are both issued by the central Accounting & Financial Reporting department and must be applied consistently by all units. New legislation, accounting standards, and other official pronouncements are continuously analyzed in terms of their relevance and their impact on the consolidated financial statements and the combined management report. Where necessary, our accounting policies and chart of accounts are adjusted accordingly. The local accounting departments are informed about current topics affecting accounting and the process of preparing the financial statements in monthly financial-reporting memos, which are intended to help avoid errors in the financial statements and facilitate adherence to deadlines.

The base data used in the preparation of the consolidated financial statements comprises the financial data reported by OSRAM Licht AG and its subsidiaries, which in turn is based on the accounting entries made in the units. Our internal shared services organizations offer services to the majority of the subsidiaries world-wide, including the preparation of financial statements, the general ledger, and accounting for receivables, payables, and assets. In addition, we draw on support from external service providers with specialist knowledge, such as in relation to the valuation of pension commitments.

The consolidated financial statements are prepared in the consolidation system by the relevant employees in the Group Consolidation department on the basis of the accounting data reported. The steps to be performed are subject to extensive manual and system controls. The reasons for any validation or warning messages must be rectified by the unit delivering the data before it can be approved.

The basic principle is that of dual control. Furthermore, the accounting data must undergo certain approval processes at all levels. Variance analyses and analyses of the composition of and changes in individual items are also carried out. The employees involved in the accounting and reporting process are assessed for their professional aptitude during the selection process and subsequently receive training as required.

Individual access authorizations protect the data in the accounting-related IT systems against unauthorized access, change, and use. All of the entities included in the consolidated financial statements are subject to the corporate guidelines on information security.

The management teams of the subsidiaries included in the consolidated financial statements, of the business units, and of certain central corporate units confirm the correctness of the financial data reported to Group headquarters and the effectiveness of the relevant control systems on a quarterly basis. In addition, we have established a Disclosure Committee comprising the heads of certain central corporate units, whose task it is to check material financial and non-financial data before publication.

The activities of our Internal Audit function constitute another element of our control system. OSRAM's Internal Audit function performs continual audits throughout the Group to ensure that policies are observed, our control system is reliable and working properly, and our ERM system is appropriate and effective.

The Supervisory Board also forms part of the control system via the Audit Committee. In particular, the latter monitors the accounting and reporting process, the effectiveness of the control system, the ERM system, and the Internal Audit function, and oversees the audit of the financial statements by the auditors. It also examines the documents relating to OSRAM Licht AG's single-entity financial statements and to the consolidated financial statements, and discusses OSRAM Licht AG's single-entity financial statements, the consolidated financial statements, and the combined management report with the Managing Board and the auditors. The Supervisory Board is also required to review the OSRAM Licht Group's non-financial report.

Additional Information Regarding OSRAM Licht AG's Single-entity Financial Statements (HGB)

As the parent company of the OSRAM Licht Group, OSRAM Licht AG is included in the Group-wide accounting-related internal control system described above. The disclosures made above also apply in principle to OSRAM Licht AG's HGB single-entity financial statements.

The consolidated financial statements are prepared in accordance with IFRS. If necessary (for example, for the single-entity financial statements in accordance with German commercial law, or for tax purposes), individual accounts are reconciled to the relevant requirements. Correctly calculated IFRS accounting data therefore also represents an important basis for OSRAM Licht AG's single-entity financial statements. An HGB chart of accounts supplements the above-mentioned conceptual framework in the case of OSRAM Licht AG and other Group companies accounted for in accordance with HGB. The above-mentioned manual and system control measures also apply in principle to the reconciliation of IFRS accounting data to the HGB single-entity financial statements.

A . 5

Takeover-related Disclosures, Remuneration Report, Treasury Shares, Corporate Governance Declaration, and Non-financial Group Report

A.5.1 Takeover-related Disclosures

The takeover-related disclosures and explanatory report for fiscal year 2019 are published in accordance with section 289a(1) and section 315a(1) of the HGB.

Structure of the Common Stock

As of September 30, 2019, the Company's capital stock amounted to €96,848,074 (previous year: €104,689,400). The capital stock is divided into 96,848,074 (previous year: 104,689,400) registered no-par-value shares, each with a notional value of €1.00. The shares are fully paid in. In accordance with section 4(3) sentence 1 of the Articles of Association, shareholders do not have a right to receive share certificates insofar as this is permissible in law and unless share certificates are required under the rules applicable for a stock exchange on which the shares are admitted for trading. Individual certificates or global certificates for shares can be issued. In accordance with section 67(2) sentence 1 of the AktG, only shareholders who are entered as such in the share register are deemed to be shareholders of the Company.

The same rights and obligations attach to all shares. Details of the rights and obligations of the shareholders are contained in the provisions of the AktG, in particular in sections 12, 53aff., 118ff., and 186 of the AktG.

Restrictions Affecting the Voting Rights or the Transfer of Shares

Each share entitles the holder to one vote at the Annual General Meeting and serves as the basis for determining the shareholder's share in the Company's profits. This does not apply to treasury shares held by the Company, which do not give rise to any rights for the Company. Restrictions of the voting rights attached to shares can result in particular from the provisions of stock corporation law, such as section 136 of the AktG. Breaches of the notification requirements within the meaning of sections 33(1), 38(1), and 39(1) of the WpHG could lead to rights attached to shares and also the right to vote being invalid, at least temporarily, in accordance with section 44 of the WpHG. We are not aware of any contractual restrictions on voting rights.

Interests in the Capital Exceeding 10% of the Voting Rights

As far as the Company is aware, the following direct and indirect interests in the voting capital of OSRAM Licht AG exceeding 10% of the voting rights existed as of the reporting date:

Interests in the Capital Exceeding 10% of the Voting Rights

	Number of voting rights	Direct share of voting rights in %	Indirect share of voting rights in %
ams AG, Premstätten, Austria ¹⁾	14,770,105	15.25	–

1) According to ams AG's voluntary notification on shareholdings as of September 30, 2019.

According to the offer document pertaining to the voluntary public takeover offer made by ams Offer GmbH to the shareholders of OSRAM Licht AG, which was published on November 7, 2019, ams AG held 19,359,929 OSRAM shares at the time of publication of this offer document. This equates to 19.99% of the voting rights

in OSRAM Licht AG. We have not been notified of any other direct or indirect interests in the Company's capital that reach or exceed 10% of the voting rights, and we are not otherwise aware of any such interests.

Shares Conveying Special Control Rights

There are no shares conveying special control rights.

System of Control of Voting Rights if Employees Are Shareholders and Do Not Exercise Their Control Rights Directly

If OSRAM Licht AG has issued or issues shares to employees as part of employee share ownership programs, these shares are transferred directly to the employees. The eligible employees can exercise the control rights arising out of the employee shares directly, like other shareholders, in accordance with the statutory provisions and the provisions of the Articles of Association.

Statutory Provisions and Provisions of the Articles of Association Governing the Appointment and Dismissal of Members of the Managing Board and Amendments to the Articles of Association

The appointment and the dismissal of members of the Managing Board are governed by sections 84 and 85 of the AktG and by section 31 of the *Mitbestimmungsgesetz* (MitbestG—German Codetermination Act). Section 5(1) of the Articles of Association specifies that the Managing Board must consist of several persons; the number of members of the Managing Board is determined by the Supervisory Board. The Supervisory Board can appoint a Chairman and a Deputy Chairman of the Managing Board, as specified in section 84(2) of the AktG and section 5(2) of the Articles of Association.

In accordance with sections 119(1) no.5 and 179 of the AktG, a resolution of the Annual General Meeting is required to amend the Articles of Association. Section 9(4) of the Articles of Association gives the Supervisory Board the power to make amendments to the Articles of Association that affect the wording only. In addition, the Supervisory Board was authorized by resolutions of the OSRAM Licht AG Annual General Meeting on February 20, 2018, to amend the Articles of Association to reflect any utilization of Authorized Capital 2018 and Contingent Capital 2018, and following expiration of the relevant authorization periods.

The adoption of resolutions at the Annual General Meeting requires a simple majority of votes or, if a capital majority is required, a simple majority of the capital stock represented in the voting unless a greater majority is required by law (section 17(2) of the Articles of Association). This means that Annual General Meeting resolutions amending the Articles of Association also require a majority of the capital stock represented in the voting, as well as a simple majority of the votes, unless a greater majority is required by law. In particular, a change to the object of the Company requires a 75% majority of the capital stock represented in the voting, pursuant to section 179(2) of the AktG.

Powers of the Managing Board to Issue or Repurchase Shares

By way of a resolution passed by the Annual General Meeting on February 20, 2018, the Managing Board was authorized, subject to the approval of the Supervisory Board, to increase the Company's capital stock by up to €24,078,562 in total by issuing, in one or more tranches, a total of up to 24,078,562 new registered no-par-value shares, each representing €1.00 of the capital stock, in return for cash and/or non-cash contributions in the period until February 19, 2023 (Authorized Capital 2018). The new shares must be offered to the existing shareholders for subscription; they can also be issued to banks with the condition that the shares are offered to existing shareholders for subscription. The Managing Board is authorized, subject to the approval of the Supervisory Board, to disapply preemptive rights in full or in part in the case of capital increases against non-cash contributions. In the case of capital increases for cash, preemptive rights can be disapplied:

- 1 if, at the time of the final determination of the issue price, the issue price of the new shares is not significantly lower than the market price of the Company's shares already listed and this disapplication of preemptive rights is limited to a maximum of 10% of the Company's existing capital stock,
- 2 to grant the holders or beneficiaries of convertible bonds and/or warrant-linked bonds, profit-sharing rights and/or income bonds, or warrants a preemptive right to new shares that is equal to the right they would have after exercising the conversion right or option or after fulfilling the conversion obligation or option obligation,
- 3 so far as the new shares are to be issued to members of the Company's Managing Board, to members of the representative body of an affiliated company, to employees of the Company, or to employees of an affiliated company under a share ownership or other share-based scheme, and
- 4 to remove any fractional amounts from the preemptive rights. Further details are contained in section 4(5) of the Articles of Association.

By way of a resolution passed by the Annual General Meeting on February 20, 2018, the Managing Board was authorized, subject to the approval of the Supervisory Board, to issue bearer or registered subordinated or non-subordinated convertible bonds and/or warrant-linked bonds, profit-sharing rights, and/or income bonds in an aggregate principal amount of up to €1,000,000,000 in the period until February 19, 2023, on one or more occasions, also simultaneously in different series, and to grant the holders or beneficiaries of the bonds conversion or option rights up to a maximum of 10,468,940 registered no-par-value shares in the Company representing a proportionate amount of the capital stock totaling up to €10,468,940. The bonds can be issued in return for cash and/or non-cash capital contributions. Further details are contained in the authorizing resolution. In particular, under this authorization, the bonds must generally be offered to the existing shareholders for subscription; they can also be issued to banks with the condition that the bonds are offered to existing shareholders for subscription. The Managing Board is authorized, subject to the approval of the Supervisory Board, to disapply preemptive rights in full or in part in the case of issues against non-cash contributions. In the case of issues for cash, preemptive rights can be disapplied:

- 1 if bonds are issued with conversion or option rights/conversion or option obligations and the issue price of the bonds is not significantly below their hypothetical market value calculated using generally accepted methods (in particular, methods used in financial mathematics). The authorization to disapply preemptive rights applies to bonds with conversion or option rights/conversion or option obligations in respect of shares whose value in terms of their proportionate amount of the capital stock does not, in total, exceed 10% of the capital stock of the Company,
- 2 to grant the holders or beneficiaries of bonds or warrants a preemptive right that is equal to the right they would have after exercising the conversion right or option or after fulfilling the conversion obligation or option obligation, and
- 3 to remove any fractional amounts from the preemptive rights.

To grant shares to the holders or beneficiaries of convertible bonds or warrant-linked bonds that are issued on the basis of the Managing Board's authorization, the Company's capital stock was contingently increased by up to €10,468,940 by issuing up to 10,468,940 new registered no-par-value shares (Contingent Capital 2018). Further details are contained in section 4(6) of the Articles of Association.

In accordance with section 186(3) sentence 4 of the AktG, the total amount of shares that can be issued on the basis of bonds under this authorization may not, together with other shares issued or sold in accordance with or in line with this statutory provision during the effective period of these authorizations, exceed 10% of the capital stock, either on the effective date of the authorization or when it is exercised. Shares that were issued up to these points in time on the basis of the Authorized Capital 2018, the Authorized Capital 2013, any other authorized capital, or through sales of treasury shares for which the preemptive rights of the shareholders were disapplied, must also be counted toward this limit.

The Company's Managing Board is authorized to repurchase treasury shares and to sell repurchased shares in the cases laid down by law in section 71 of the AktG. On February 14, 2017, the Annual General Meeting authorized the Managing Board of the Company, in accordance with section 71(1) no. 8 of the AktG, to acquire, in the period up to February 13, 2022, treasury shares totaling up to 10% of the capital stock in existence on the effective date of this authorization in the amount of €104,689,400 or—if this amount is lower—the capital stock in existence each time that this authorization is exercised. The shares purchased on the basis of this authorization, together with other Company shares that the Company has already purchased and still holds, or that are attributable to it in accordance with sections 71d and 71e of the AktG, may not account for more than 10% of the capital stock at any point. The acquisition of OSRAM Licht shares can be made at the Managing Board's discretion:

- 1 as a purchase via the stock exchange,
- 2 by way of a public purchase offer,
- 3 by way of a public invitation to all shareholders to submit an offer to sell, or
- 4 by granting shareholders put options.

With the approval of the Supervisory Board, the Managing Board partially exercised the authorization to purchase treasury shares under a share buyback program in fiscal year 2019. In the period from January 10, 2019 up to and including May 28, 2019, the Company acquired 2,663,125 treasury shares via the stock exchange.

In addition, a resolution passed by the Annual General Meeting on February 14, 2017, authorized the Managing Board, subject to the approval of the Supervisory Board, to use certain equity derivatives (put options, call options, and forward purchase contracts, as well as combinations of these derivatives) to acquire OSRAM Licht shares under the above-mentioned authorization. Any share purchases using such derivatives are capped at 5% of the capital stock existing as of the date on which the Annual General Meeting adopted the resolution, or—if this amount is lower—the capital stock in existence each time the authorization is exercised. The maturity of equity derivatives may not exceed 18 months in each case, and the transaction must be selected in such a way as to ensure that acquisition of the OSRAM Licht shares by means of the equity derivative does not take place after February 13, 2022.

The Managing Board was also authorized by resolutions of the Annual General Meeting on February 14, 2017, to do the following with treasury shares acquired on the basis of the above-mentioned or earlier authorizations:

- 1 Sell them on the stock exchange or, subject to the approval of the Supervisory Board, through a public offer to all shareholders in relation to their existing holdings,
- 2 Retire them,
- 3 Subject to the approval of the Supervisory Board, offer and transfer them to third parties for a non-cash consideration, especially in connection with business combinations or with the acquisition of companies, parts of a company, or equity interests,
- 4 Subject to the approval of the Supervisory Board, sell them to third parties for cash if the price at which the OSRAM Licht shares are sold is not significantly lower than the quoted market price of OSRAM Licht shares at the time of sale,
- 5 Use them to fulfill acquisition obligations or acquisition rights to OSRAM Licht shares arising from or in connection with convertible bonds or warrant-linked bonds issued by the Company or one of its Group companies, or
- 6 Offer them for sale to persons who are or were employed by the Company or by one of its affiliated companies, or to current or former members of executive or supervisory bodies of the Company's affiliated companies, or to grant or transfer them subject to a holding or lock-up period of not less than two years, whereby the recipient must be employed by the Company or by one of its affiliated companies or be a member of an executive or supervisory body of an affiliated company of the Company at the time of the offer or pledge.

The shares utilized in accordance with section 186(3) sentence 4 of the AktG on the basis of the authorization in option 4 may not, together with other shares issued or sold in accordance with or in line with this statutory provision during the effective period of this authorization until their utilization, exceed in total 10% of the capital stock at this time.

In addition, the Supervisory Board was authorized to use the acquired treasury shares to service acquisition obligations or acquisition rights to OSRAM Licht shares that were or are agreed with members of the Managing Board of OSRAM Licht AG as part of the arrangements for Managing Board remuneration. The Company held 2,796,275 treasury shares as of September 30, 2019 (previous year: 8,145,509).

Details regarding the authorizations can be found in each authorization resolution and in section 4 of the Articles of Association.

Material Agreements of the Company That Are Subject to a Change of Control upon a Takeover Bid, Together with the Resulting Effects

OSRAM GmbH and OSRAM Licht AG are parties to a loan agreement with a banking syndicate for a revolving credit facility with a volume of €950 million and a loan agreement with the European Investment Bank for a credit facility with a volume of originally €200 million. These loan agreements give each lender the right to require early repayment if a person or group of persons acting together (with the exception of Siemens AG and its subsidiaries) acquires 50% or more of the voting rights of OSRAM Licht AG or OSRAM GmbH. If these termination rights were to be exercised, the funding for the OSRAM Licht Group's ongoing business operations could then potentially be insecure, at least temporarily.

Two German companies in the OSRAM Group entered into factoring agreements with a major German factoring company in September 2019, under which trade receivables in a total volume of up to €95 million can be sold on a non-recourse and revolving basis. In the event of a change of control, the agreements give the factoring company a right of termination in line with usual business practice. The exercise of the right of termination at the factoring company's discretion would have no impact on the receivables sold by the date of termination but would prevent future sales of receivables.

A number of patent licensing agreements, joint development projects, subsidized projects, supply agreements, and joint venture agreements contain change-of-control clauses reflecting normal business practice that, in the event of a change of control over OSRAM Licht AG, grant the other contractual partner the right to terminate the contract or other special rights that may potentially be disadvantageous to OSRAM or that make continuation of the contract contingent on the contractual partner's approval.

Furthermore, OSRAM Opto Semiconductors GmbH has been granted a state subsidy of around €73 million by the Bundesministerium für Wirtschaft und Energie (BMWi—German Federal Ministry for Economic Affairs and Energy) as part of the Important Project of Common European Interest (IPCEI) on Microelectronics. The subsidy can be withdrawn in the event of a change of control if the acquiring company's registered office is outside the European Union.

Severance Payments Agreed by the Company with the Members of the Managing Board or Employees in the Event of a Takeover Bid

In the event of a change of control—that is, if one or several shareholders acting together acquire the majority of OSRAM Licht AG's voting rights and exercise a controlling influence, if OSRAM Licht AG becomes a dependent company by entering into an intercompany agreement within the meaning of section 291 of the AktG, or if OSRAM Licht AG is merged into another company—each member of the Managing Board has the right to resign their position, resulting in the simultaneous termination of their employment contract, if the change of control results in a significant change in their role. Members of the Managing Board are entitled to a severance payment amounting to a maximum of two years' remuneration on termination of their employment contracts. In addition to the basic remuneration and the bonus actually received, the calculation of the severance payment includes the monetary value of the stock awards granted, based on the last fiscal year ended prior to the termination of the contract in each case. The severance payment is reduced by 15% of the portion of the severance payment that has been calculated without taking into account the first six months of the remaining contract term to reflect a flat-rate discount and to offset earnings from other sources. In addition, non-cash benefits are settled in full by a payment in the amount of 5% of the severance payment. Any share-based remuneration components granted in the past remain unaffected and are settled on the dates originally planned. In any case, shares will not be transferred in order to settle the stock awards until the applicable lock-up period has ended. Members of the Managing Board are not entitled to a severance payment to the extent that they receive payments from third parties on the occasion of or in connection with the change of control. No termination right exists if the change of control takes place less than twelve months before the member of the Managing Board retires.

OSRAM Licht AG has not agreed any severance payment arrangements with its own employees or with the members of the managing boards, managing directors, or employees of direct or indirect subsidiaries for circumstances in which there is a change of control (except for aforementioned arrangements with members of the Managing Board of OSRAM Licht AG who are simultaneously managing directors of the subsidiaries OSRAM GmbH and OSRAM Beteiligungen GmbH). An exception is the agreement with a member of the senior management of OSRAM Licht AG. In the event that, in the period up to June 30, 2020, an investor obtains control over OSRAM Licht AG in accordance with section 29(2) of the WpÜG and the employment contract is terminated by the employer at OSRAM Licht AG's request within 24 months of control being obtained, this person is entitled to a severance payment of 10% of their annual target income for each year of employment.

A.5.2 Remuneration Report

The remuneration report summarizes the principles used to determine the total remuneration of the members of the Managing Board of OSRAM Licht AG and explains the structure and amount of the remuneration granted to the members of the Managing Board. It also describes the principles and amount of the remuneration paid to the members of the Supervisory Board. These disclosures in accordance with section 315a(2) of the HGB and sections 4.2.4, 4.2.5, and 5.4.6(3) of the German Corporate Governance Code are contained in [C.4.2 Remuneration Report](#). The remuneration report is part of the combined management report.

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A.5.3 Treasury Shares

The disclosures concerning the acquisition of treasury shares pursuant to section 160(1) no.2 of the AktG can be found in [Note 26 | Equity](#) in B.6 Notes to the Consolidated Financial Statements.

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A.5.4 Corporate Governance Declaration

The corporate governance declaration in accordance with section 289f of the HGB is a component of the combined management report and is published on our website [» www.osram-group.com/en/our-company/our-management/corporate-governance](http://www.osram-group.com/en/our-company/our-management/corporate-governance). The corporate governance declaration in accordance with sections 289f and 315d of the HGB can also be found in [C.4.3 Corporate Governance Declaration](#).

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A.5.5 Non-financial Group Report

The non-financial Group report is a component of part C Statements and Further Information [C.5 Non-financial Group Report](#) in the annual report, which is published on our website [» www.osram-group.com/en/investors](http://www.osram-group.com/en/investors).

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A . 6

OSRAM Licht AG

Disclosures in Accordance with the HGB

In contrast to the consolidated financial statements, OSRAM Licht AG's single-entity financial statements are prepared in accordance with the provisions of the HGB rather than IFRS.

A.6.1 Business and Operating Environment

OSRAM Licht AG is a management holding company and performs the governance function for the OSRAM Licht Group. OSRAM Licht AG employed around 70 FTEs as of September 30, 2019 (previous year: 76 FTEs).

OSRAM Licht AG directly and indirectly holds shares in over 120 companies, including minority interests. The economic environment of OSRAM Licht AG largely corresponded to that of the OSRAM Licht Group and is described in [A.1.1 Business Activities and Structure of OSRAM Licht Group](#) and [A.2.2 Events and Developments Responsible for the Course of Business](#).

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A.6.2 Results of Operations

Income Statement of OSRAM Licht AG in Accordance with the HGB

in € thousand

	Fiscal year	
	2019	2018
Revenue	3,000	3,000
Cost of services rendered	(3,000)	(3,000)
Gross profit	0	0
Research and development expenses	(584)	(20,030)
Distribution Costs	(661)	0
General administrative expenses	(43,160)	(36,952)
Other operating income	1,278	2,326
Other operating expenses	(235)	0
Operating profit (loss)	(43,361)	(54,656)
Income (loss) from investments, net	150,018	248,015
Interest expenses	(1,348)	(1,506)
Other financial income (expenses), net	(793)	(380)
Taxes on income and earnings	0	0
Net income	104,515	191,474
Income carried forward	176	9,042
Allocation to other retained earnings	(52,258)	(93,014)
Unappropriated profit	52,433	107,501

Revenue relates to the charging on of administrative services that OSRAM Licht AG carried out for the affiliated companies in the OSRAM Licht Group.

The *Cost of services rendered* arose from these administrative services.

The decrease in *Research and development expenses* was due to the elimination of the OSRAM Licht Group's complex cost allocation models, which meant that such allocations of costs to OSRAM Licht AG ceased.

At the start of the fiscal year, management functions in marketing and communications were grouped together in OSRAM Licht AG for the first time. The related expenses are assigned to *Distribution costs*.

In fiscal year 2019, *General administrative expenses* mainly contained OSRAM Licht AG's costs for performing the governance function for the OSRAM Licht Group, including personnel expenses, expenses for the Annual General Meeting and the Supervisory Board, expenses for share programs for the employees of OSRAM Licht AG, expenses for consulting services in connection with the strategic realignment of the OSRAM Licht Group, and fees for the auditors for auditing the single-entity financial statements and consolidated financial statements and reviewing the interim financial statements. The increase in general administrative expenses was primarily due to the share-price-related rise in expenses for share programs for the employees of OSRAM Licht AG and to expenses for consulting services in connection with the strategic realignment of the OSRAM Licht Group. This increase was mitigated by cost savings as a result of performance programs and the changes made to the OSRAM Licht Group's cost allocation model.

Other operating income arose due to share-price-related decreases in the obligation under bonus programs. *Other operating expenses* included expenses from share-price-related increases in the obligation under bonus programs.

In fiscal year 2019, OSRAM Licht AG generated income from investments totaling €150,018 thousand (previous year: €248,015 thousand). This resulted from a dividend for fiscal year 2018 from OSRAM GmbH of €59,550 thousand (previous year: €43,670 thousand) and the transfer of profits from OSRAM Beteiligungen GmbH of €90,468 thousand (previous year: €149,559 thousand). No advance dividend for the fiscal year was received from OSRAM GmbH (previous year: €54,786 thousand).

A.6.3 Net Assets and Financial Position

Statement of Financial Position of OSRAM Licht AG in Accordance with the HGB (Condensed Version)

in € thousand

	September 30,	
	2019	2018
Assets		
Non-current assets		
Property, plant, and equipment	134	157
Financial assets	3,044,734	3,044,734
Current assets		
Receivables and other current assets	100,963	160,722
Cash and cash equivalents	10	17
Other prepaid expenses	186	261
Total assets	3,146,027	3,205,891
Liabilities and equity		
Equity	2,441,702	2,529,635
Accruals and provisions		
Pension plans and similar commitments	18,125	15,663
Other provisions	7,683	6,553
Liabilities		
Trade payables	16,206	4,953
Liabilities to affiliated companies	658,431	642,451
Other liabilities and trade payables	3,881	6,636
Total liabilities and equity	3,146,027	3,205,891

The decrease in *Receivables and other current assets* of €59,759 thousand was largely attributable to lower receivables from affiliated companies, which amounted to €90,467 thousand (previous year: €149,860 thousand). Tax receivables stood at €10,132 thousand as of September 30, 2019 (previous year: €10,852 thousand).

Equity fell by €87,933 thousand, mainly owing to the share buyback of €92,436 thousand carried out in the fiscal year and the distribution of dividends amounting to €107,326 thousand. The main countervailing effect was from net income, which came to €104,515 thousand.

The Supervisory Board and Managing Board are proposing that the *Unappropriated profit* be carried forward to the next accounting period.

The *Provisions for pension plans and similar commitments* include the pension commitments to the Managing Board and employees of OSRAM Licht AG. Other provisions mainly contain obligations relating to share-based remuneration.

Liabilities to affiliated companies largely comprise liabilities in connection with cash pooling at OSRAM. In fiscal year 2019, liabilities of OSRAM Licht AG to OSRAM GmbH amounting to €65,000 thousand were converted into an interest-free loan with a term of five years.

Other liabilities and trade payables were mainly made up of personnel-related liabilities for wages and salaries in an amount of €2,754 thousand (previous year: €4,307 thousand), as well as other liabilities.

A.6.4 Opportunities and Risks

OSRAM Licht AG's business performance is largely subject to the same opportunities and risks as that of the OSRAM Licht Group. As a rule, OSRAM Licht AG's exposure to the risks of its subsidiaries and investments is in proportion to its direct or indirect equity interest in these entities > [A.4.2 Report on Risks and Opportunities](#).

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As the parent company of the OSRAM Licht Group, OSRAM Licht AG is included in the Group-wide risk management system. The description of OSRAM Licht AG's internal control system required by section 289(4) of the HGB can be found in > [A.4.2.5 Key Features of the Accounting-related Internal Control and Risk Management System](#).

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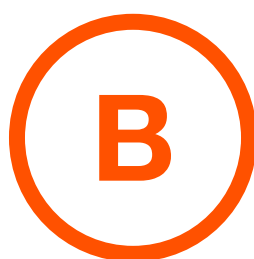
A.6.5 Outlook

Due to its interrelationships with the companies in the Group, the expectations for OSRAM Licht AG are reflected in the forecast for the Group. OSRAM Licht AG's net assets, financial position, and results of operations are primarily dependent on the business performance of, and distributions made by, Group companies > [A.4.1 Report on Expected Developments](#). For fiscal year 2020, we anticipate that OSRAM Licht AG's unappropriated profit will remain at the same level.

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Consolidated Financial Statements

of OSRAM Licht AG
for Fiscal Year 2019 According to IFRS



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B.1

Consolidated Statement of Income

OSRAM Licht Group Consolidated Statement of Income For the fiscal years ending September 30, 2019, and 2018 in € million

	Note	2019	2018
Revenue		3,464	3,789
Cost of goods sold and services rendered		(2,578)	(2,555)
Gross profit		886	1,234
Research and development expenses		(418)	(400)
Marketing, selling and general administrative expenses		(612)	(584)
Other operating income	Note 6	33	37
Other operating expenses	Note 7	(234)	(16)
Income (loss) from investments accounted for using the equity method, net	Note 8	(10)	(2)
Interest income	Note 21, 28	2	3
Interest expenses	Note 21, 28	(14)	(10)
Other financial income (expenses), net		(10)	1
Income (loss) before income taxes OSRAM (continuing operations)		(377)	263
Income taxes	Note 9	33	(74)
Income (loss) OSRAM (continuing operations)		(343)	188
Income (loss) from discontinued operations, net of tax	Note 4	(123)	(48)
Net income (loss)		(467)	141
Attributable to:			
Non-controlling interests		(62)	3
Shareholders of OSRAM Licht AG		(405)	137
Basic earnings per share (in €)	Note 32	(4.23)	1.42
Diluted earnings per share (in €)	Note 32	(4.22)	1.42
Basic earnings per share (in €) OSRAM (continuing operations)	Note 32	(2.94)	1.92
Diluted earnings per share (in €) OSRAM (continuing operations)	Note 32	(2.93)	1.91

Minor differences may occur due to rounding.
 The accompanying Notes are an integral part of these consolidated financial statements.

B . 2

Consolidated Statement of Comprehensive Income

OSRAM Licht Group Consolidated Statement of Comprehensive Income For the fiscal years ending September 30, 2019, and 2018 in € million

	Note	2019	2018
Net income (loss)		(467)	141
Items that will not be reclassified to profit or loss			
Remeasurements of defined benefit plans	Note 21	(11)	(20)
<i>thereof: income tax</i>		7	(17)
fair value measurement of equity instruments		0	–
<i>thereof: income tax</i>		0	–
Items that may be reclassified subsequently to profit or loss			
Currency translation differences		77	3
Available-for-sale financial assets		–	(1)
<i>thereof: income tax</i>		–	0
Derivative financial instruments	Note 28	1	(6)
<i>thereof: income tax</i>		0	2
		78	(3)
Other comprehensive income (loss), net of tax		67	(23)
Total comprehensive income (loss)		(400)	118
Attributable to:			
Non-controlling interests		(61)	2
Shareholders of OSRAM Licht AG		(339)	116

Minor differences may occur due to rounding.
 The accompanying Notes are an integral part of these consolidated financial statements.

B.3

Consolidated Statement of Financial Position

OSRAM Licht Group Consolidated Statement of Financial Position As of September 30, 2019, and 2018 in € million

	Note	September 30, 2019	September 30, 2018
ASSETS			
Current assets			
Cash and cash equivalents		310	333
Available-for-sale financial assets		–	0
Trade receivables	Note 10	558	614
Other current financial assets	Note 11	29	45
Contract assets	Note 12	9	–
Inventories	Note 13	692	743
Income tax receivables		21	49
Other current assets	Note 14	113	151
Assets held for sale	Note 4	93	49
Total current assets		1,824	1,984
Goodwill	Note 15	186	369
Other intangible assets	Note 15	273	296
Property, plant, and equipment	Note 16	1,493	1,621
Investments accounted for using the equity method	Note 8	56	66
Other financial assets		25	19
Deferred tax assets	Note 9	410	309
Other assets	Note 17	70	65
Total assets		4,335	4,730

Minor differences may occur due to rounding.
 The accompanying Notes are an integral part of these consolidated financial statements.

OSRAM Licht Group Consolidated Statement of Financial Position

As of September 30, 2019, and 2018
in € million

	Note	September 30, 2019	September 30, 2018
LIABILITIES AND EQUITY			
Current liabilities			
Short-term debt and current maturities of long-term debt	Note 20	539	233
Trade payables		548	714
Other current financial liabilities	Note 18	113	40
Current contract liabilities	Note 12	14	–
Current provisions	Note 22	69	74
Income tax payables		65	110
Other current liabilities	Note 19	347	373
Liabilities associated with assets held for sale	Note 4	90	12
Total current liabilities		1,786	1,555
Long-term debt	Note 20	120	152
Pension plans and similar commitments	Note 21	167	162
Deferred tax liabilities	Note 9	17	14
Provisions	Note 22	33	26
Other financial liabilities		27	24
Contract liabilities	Note 12	1	–
Other liabilities	Note 23	102	121
Total liabilities		2,252	2,053
Equity			
Common stock, no-par-value		97	105
Additional paid-in capital		1,672	2,034
Retained earnings		255	780
Other components of equity		79	3
Treasury shares, at cost ¹⁾		(99)	(386)
Total equity attributable to shareholders of OSRAM Licht AG		2,004	2,536
Non-controlling interests		79	140
Total equity	Note 26	2,083	2,676
Total liabilities and equity		4,335	4,730

1) The Company held 2,796,275 treasury shares as of September 30, 2019 (September 30, 2018: 8,145,509) » [Note 26 | Equity](#) in B.6 Notes to the Consolidated Financial Statements.

Minor differences may occur due to rounding.
The accompanying Notes are an integral part of these consolidated financial statements.

B . 4

Consolidated Statement of Cash Flows

OSRAM Licht Group Consolidated Statement of Cash Flows For the fiscal years ending September 30, 2019, and 2018 in € million

	Note	2019	2018
Cash flows from operating activities			
Net income (loss)		(467)	141
Adjustments to reconcile net income (loss) to cash provided			
Income (loss) from discontinued operations, net of tax	Note 4	123	48
Amortization, depreciation, and impairments		521	251
Income taxes		(33)	74
Interest (income) expenses, net		12	8
(Gains) losses on sales and disposals of businesses, intangible assets, and property, plant, and equipment, net	Note 6, 7	3	(16)
(Gains) losses on sales of investments, net	Note 8	0	1
(Income) loss from investments		12	3
Other non-cash (income) expenses		7	9
Change in current assets and liabilities			
(Increase) decrease in inventories		51	(78)
(Increase) decrease in trade receivables		112	3
(Increase) decrease in other current assets		23	(7)
Increase (decrease) in trade payables		(53)	(93)
Increase (decrease) in current provisions		(4)	(7)
Increase (decrease) in other current liabilities		(6)	75
Change in other assets and liabilities		(40)	0
Income taxes paid		(38)	(76)
Dividends received		0	0
Interest received		2	3
Net cash provided by (used in) operating activities – OSRAM (continuing operations)		224	337
Net cash provided by (used in) operating activities discontinued operation		(50)	(57)
Net cash provided by (used in) operating activities – OSRAM Licht Group (total)		174	279

Minor differences may occur due to rounding.
 The accompanying Notes are an integral part of these consolidated financial statements.

OSRAM Licht Group Consolidated Statement of Cash Flows
 For the fiscal years ending September 30, 2019, and 2018
 in € million

	Note	2019	2018
Cash flows from investing activities			
Additions to intangible assets and property, plant, and equipment	Note 15, 16	(208)	(455)
Acquisitions, net of cash and cash equivalents acquired	Note 4	(50)	(181)
Purchases of investments		(14)	(10)
Proceeds and payments from sales of investments, intangible assets, and property, plant, and equipment	Note 8	4	8
Proceeds and payments from sales of business activities, net of cash and cash equivalents disposed of	Note 4	22	22
Proceeds from sale of current available-for-sale financial assets		–	2
Net cash provided by (used in) investing activities—OSRAM (continuing operations)		(246)	(614)
Net cash provided by (used in) investing activities discontinued operation		(10)	(10)
Net cash provided by (used in) investing activities—OSRAM Licht Group (total)		(256)	(625)
Cash flows from financing activities			
Purchase of treasury shares		(92)	–
Payments from capital increases in subsidiaries with minority interests		3	1
Repayment of long-term debt	Note 20	(32)	(8)
Change in short-term debt and other financing activities	Note 20	306	195
Interest paid		(7)	(5)
Dividends paid to shareholders of OSRAM Licht AG	Note 26	(107)	(107)
Dividends paid to non-controlling interest shareholders		–	(3)
Net cash provided by (used in) financing activities—OSRAM (continuing operations)		71	72
Net cash provided by (used in) financing activities discontinued operation		–	–
Net cash provided by (used in) financing activities—OSRAM Licht Group (total)		71	72
Effect of exchange rates on cash and cash equivalents		5	(3)
Net increase (decrease) in cash and cash equivalents		(6)	(276)
Cash and cash equivalents at the beginning of the reporting period		333	609
Cash and cash equivalents at the end of the reporting period		327	333
Less: Cash and cash equivalents of discontinued operation at the end of the reporting period		17	0
Cash and cash equivalents at the end of the reporting period (consolidated statement of financial position)		310	333

Minor differences may occur due to rounding.
 The accompanying Notes are an integral part of these consolidated financial statements.

B.5

Consolidated Statement of Changes in Equity

OSRAM Licht Group Consolidated Statement of Changes in Equity For the fiscal years ending September 30, 2019, and 2018 in € million

	Common stock	Additional paid-in capital	Retained earnings	Currency translation differences	Measurement of equity instruments at fair value	Derivative financial instruments	Treasury shares at cost	Total equity attributable to shareholders of OSRAM Licht AG	Non-controlling interests	Total equity
Balance as of October 1, 2017	105	2,035	699	5	1	0	(392)	2,452	8	2,460
Net income (loss)	-	-	137	-	-	-	-	137	3	141
Other comprehensive income (loss), net of tax	-	-	(20) ¹⁾	4	1	(6)	-	(22)	(1) ²⁾	(23)
Total comprehensive income (loss), net of tax	-	-	118	4	1	(6)	-	116	2	118
Purchase of treasury shares	-	-	-	-	-	-	(161)	(161)	-	(161)
Re-issuance of treasury shares	-	-	-	-	-	-	7	7	-	7
Dividends	-	-	(107)	-	-	-	-	(107)	(3)	(110)
Changes in equity resulting from portfolio transactions	-	-	67	-	-	-	-	67	133	200
Other changes in equity	-	(1)	3	-	-	-	-	2	-	2
Balance as of September 30, 2018	105	2,034	780	9	0	(6)	(386)	2,536	140	2,676
Balance as of October 1, 2018 (as reported)	105	2,034	780	9	0	(6)	(386)	2,536	140	2,676
Effects of the first-time application of IFRS 9 and IFRS 15	-	-	(1)	-	-	-	-	(1)	0	(1)
Balance as of October 1, 2018	105	2,034	779	9	0	(6)	(386)	2,535	140	2,675
Net income (loss)	-	-	(405)	-	-	-	-	(405)	(62)	(467)
Other comprehensive income (loss), net of tax	-	-	(10) ¹⁾	75	0	1	-	66	1 ²⁾	67
Total comprehensive income (loss), net of tax	-	-	(415)	75	0	1	-	(339)	(61)	(400)
Retirement of treasury shares	(8)	(363)	-	-	-	-	371	-	-	-
Purchase of treasury shares	-	-	-	-	-	-	(92)	(92)	-	(92)
Re-issuance of treasury shares	-	-	-	-	-	-	8	8	-	8
Dividends	-	-	(107)	-	-	-	-	(107)	-	(107)
Other changes in equity	-	1	(2)	-	-	-	-	0	0	(1)
Balance as of September 30, 2019	97	1,672	255	84	0	(5)	(99)	2,004	79	2,083

- 1) Other comprehensive income (loss), net of tax, attributable to shareholders of OSRAM Licht AG includes remeasurement losses on defined benefit plans for the twelve months ended September 30, 2019, and 2018, of €10 million and €20 million respectively.
 2) Other comprehensive income (loss), net of tax, attributable to non-controlling interests includes currency translation differences for the twelve months ended September 30, 2019, and 2018, of €1 million and €-1 million respectively.

Minor differences may occur due to rounding.
 The accompanying Notes are an integral part of these consolidated financial statements.

B.6

Notes to the Consolidated Financial Statements

B.6.1 Segment Information

OSRAM Licht Group Notes to the Consolidated Financial Statements—Segment Information For the fiscal years ending September 30, 2019, and 2018 in € million

	External revenue		Intersegment revenue		Total revenue		EBITDA ¹⁾	
	2019	2018	2019	2018	2019	2018	2019	2018
SEGMENTS								
Opto Semiconductors	702	861	752	864	1,453	1,725	202	417
Automotive	1,776	1,920	–	–	1,776	1,920	117	197
Digital	916	914	–	–	916	914	(39)	6
Total segments	3,394	3,696	752	864	4,145	4,559	281	620
Reconciliation to consolidated financial statements								
Corporate items and pensions	70	93	–	–	70	93	(104)	(97)
Eliminations, corporate treasury, and other reconciling items	–	–	(752)	(864)	(752)	(864)	(1)	(1)
OSRAM (continuing operations)	3,464	3,789	–	–	3,464	3,789	176	522

	Assets ²⁾		Free cash flow ³⁾		Capital expenditures ⁴⁾		Depreciation, Amortization, and Impairments ⁵⁾	
	September 30,		2019	2018	2019	2018	2019	2018
SEGMENTS								
Opto Semiconductors	1,221	1,329	164	(145)	139	393	195	161
Automotive	643	814	124	169	49	38	236	55
Digital	404	431	(85)	(39)	19	22	86	30
Total segments	2,268	2,574	204	(15)	207	453	517	245
Reconciliation to consolidated financial statements								
Corporate items and pensions	(149)	(127)	(156)	(166)	1	2	4	5
Eliminations, corporate treasury, and other reconciling items	2,215	2,283	(31)	62	–	–	–	–
OSRAM (continuing operations)	4,335	4,730	17	(118)	208	455	521	251

- 1) EBITDA is earnings before net financial income or expense (income (loss) from investments accounted for using the equity method, net; interest income; interest expenses; and other financial income (expenses), net, income taxes, and depreciation, amortization, and impairments as defined below.
- 2) Assets attributable to the segments and to Corporate items and pensions are defined as total assets less financing receivables, tax assets, non-interest-bearing provisions and liabilities, and liabilities other than tax liabilities.
- 3) Free cash flow is net cash provided by (used in) operating activities less additions to intangible assets and property, plant, and equipment. For the segments, it primarily excludes income tax-related and financing interest payments and proceeds.
- 4) Capital expenditures are defined as additions to intangible assets and property, plant, and equipment.
- 5) Depreciation, amortization, and impairments comprises impairment losses on goodwill and amortization of, and impairment losses on, other intangible assets, net of reversals of impairment losses as well as depreciation of, and impairment losses on, property, plant, and equipment, net of reversals of impairment losses.

Minor differences may occur due to rounding.
Further disclosures can be found in [Note 33 | Segment Information](#).

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B.6.2 Basis of Preparation

11 General Principles

Consolidated Financial Statements

These consolidated financial statements ('consolidated financial statements') are for OSRAM Licht AG, Munich, Germany, and its subsidiaries ('OSRAM Licht Group' or 'OSRAM'). OSRAM is a leading global provider of lighting technology and operates worldwide via a number of legal entities [› Note 38 | List of Equity Investments of the OSRAM Licht Group](#) in Accordance with Section 313 of the HGB.

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The consolidated financial statements and the combined management report for the year ended September 30, 2019, have been prepared in accordance with section 315e(1) of the *Handelsgesetzbuch* (HGB—German Commercial Code). They are filed with and published in the electronic *Bundesanzeiger* (Federal Gazette). OSRAM has prepared these consolidated financial statements in accordance with International Financial Reporting Standards (IFRS), as adopted by the European Union.

The consolidated financial statements have been prepared in millions of euros (€ m). Due to rounding, differences may arise when individual amounts or percentages are added together.

The consolidated financial statements were authorized for issue by the Managing Board of OSRAM Licht AG, Marcel-Breuer-Strasse 6, 80807 Munich, Germany, on November 20, 2019.

21 Summary of Significant Accounting Policies

Unless stated otherwise, the accounting principles set out below have been applied consistently for all periods presented in these consolidated financial statements. Certain of these accounting policies require critical accounting estimates that involve complex and subjective judgments and the use of assumptions, some of which may be for matters that are inherently uncertain and susceptible to change. Such critical accounting estimates could change from period to period and have a material impact on the Group's results of operations, financial position, and cash flows. Critical accounting estimates could also involve estimates or judgments where management reasonably could have used a different estimate or judgment in the same accounting period. Management cautions that future events often vary from forecasts and that estimates routinely require adjustment.

Basis of Consolidation

The consolidated financial statements include OSRAM Licht AG and the direct and indirect subsidiaries over which OSRAM exercises control. Control is assumed when OSRAM has exposure, or rights, to variable returns from its involvement with the investee and the ability to use its power over the investee to affect the amount of those returns. Power exists when OSRAM has existing rights that enable it to direct the relevant activities. In the absence of other restrictive contractual agreements, OSRAM generally has control if it holds the majority of the voting rights. OSRAM also exercises control over individual subsidiaries on the basis of specific contractual agreements that enable it to direct the relevant activities. Specific contractual agreements include, in particular, special voting rights that enable OSRAM to exert a long-term influence over the activities that are significant to the subsidiaries' earnings.

Associates and entities in which OSRAM has joint control are included using the equity method.

Business Combinations

Business combinations are accounted for using the acquisition method in accordance with IFRS 3. Cost of an acquisition is measured at the fair value of the assets given and liabilities incurred or assumed, as well as the fair value of the agreed contingent consideration, at the acquisition date. Acquisition-related costs are expensed in the period incurred. Identifiable assets acquired and liabilities assumed in a business combination (including contingent liabilities) are measured initially at their fair values at the acquisition date, irrespective of the extent of any non-controlling interest. Important assumptions on which the calculation of fair values and the useful lives of assets is based contain best estimates at the acquisition date. The Group decides separately for each new business combination whether it will measure the non-controlling interests in the acquiree at fair value or on the basis of the share of the assets acquired and liabilities assumed (partial goodwill method). A positive difference between the acquisition cost including the fair value of the non-controlling interests and the assets and liabilities acquired is accounted for as goodwill. A negative difference is recognized directly in profit or loss after it has been reviewed again. If there is no loss of control, transactions with non-controlling interests are accounted for as equity transactions outside profit or loss. If control is lost, any retained equity interests are remeasured at fair value through profit or loss on the date control is transferred.

Associates and Jointly Controlled Entities

Jointly controlled entities and companies over whose operating and financial policies OSRAM is able to exert significant influence are initially recognized in the consolidated financial statements at cost and subsequently accounted for using the equity method. Significant influence can be exercised by means of a direct voting share or by means of contractual rights that permit OSRAM to sit on relevant decision-making bodies. The following policies equally apply to associates and jointly controlled entities. Goodwill relating to the acquisition of associates is included in the carrying amount of the investment and is not amortized, but is tested for impairment as part of the overall investment in the associate. OSRAM's share of its associates' post-acquisition profits or losses is recognized in the consolidated statement of income, and its share of post-acquisition changes in equity that have not been recognized in the associate's profit or loss is recognized directly in equity. The cumulative post-acquisition changes are adjusted against the carrying amount of the investment in the associate. If OSRAM's share of losses in an associate equals or exceeds its interest in the associate, OSRAM does not recognize further losses unless it incurs obligations. The interest in an associate is the carrying amount of the investment in the associate together with any long-term interests that, in substance, form part of OSRAM's net investment in the associate. Intercompany profits or losses arising from transactions between OSRAM and its associates are eliminated to the extent of OSRAM's interest in the associate. OSRAM determines at each reporting date whether there is any objective evidence that the investment in the associate is impaired. If this is the case, OSRAM calculates the impairment loss requirement as the difference between the recoverable amount of the associate and its carrying amount. Upon loss of significant influence over the associate, OSRAM remeasures any remaining investment at its fair value. Any difference between the carrying amount of the associate upon loss of significant influence and the fair value of the remaining investment and proceeds from disposal is recognized in profit or loss.

Foreign Currency Translation

The assets, including goodwill, and liabilities of foreign subsidiaries whose functional currency is not the euro are translated using the middle spot exchange rate at the end of the reporting period, while the consolidated statement of income and the consolidated statement of cash flows are translated using average exchange rates during the period. Differences arising from the translation of the financial statements of foreign subsidiaries are recognized in equity in other comprehensive income and reclassified to profit or loss when the gain or loss on disposal of the foreign subsidiary is recognized.

The changes in the exchange rates for the significant currencies of non-euro countries used in currency translation were as follows:

Exchange Rates

€ 1 quoted into currencies

		Middle Spot Exchange Rate		Annual Average Exchange Rate	
		September 30,		Fiscal year	
		2019	2018	2019	2018
U.S. dollar	USD	1.089	1.158	1.130	1.192
Chinese renminbi	CNY	7.783	7.971	7.758	7.790
Hong Kong dollar	HKD	8.538	9.059	8.853	9.333
Malaysian ringgit	MYR	4.562	4.791	4.677	4.800
Mexican peso	MXN	21.483	21.765	21.935	22.519

Measurement of Foreign Currency Transactions

Transactions that are denominated in a currency other than the functional currency of an entity are reported in the functional currency using the middle spot exchange rate on the date when the underlying transactions are initially recognized. At the end of the reporting period, foreign-currency-denominated monetary assets and liabilities are remeasured in the functional currency applying the middle spot rate prevailing at that date. Gains or losses arising from these foreign currency remeasurements are recognized in profit or loss. Non-monetary items in the statement of financial position denominated in foreign currency are measured using historical exchange rates.

Revenue Recognition

IFRS 15 (Since October 1, 2018)

The recognition of revenue requires a binding contract to be in place and for the performance obligations therein to be analyzed with regard to the passing of control over goods and services.

OSRAM generates most of its revenue from the sale of products and a small proportion from licensing income. Its customers are distributors and end users (e.g., original equipment manufacturers (OEMs)). Another typical OSRAM business model is the distribution of products through consignment warehouses. Revenue is recognized when the control over goods is passed to a customer either over a period of time or at a point in time. The payment terms typically specify payment within 30 to 60 days, taking account of country-specific variances. As a rule, the invoiced transaction prices match the prices contractually agreed with the customer. OSRAM defines the nature of the performance obligations that it undertakes on the basis of whether it is acting as principal or agent.

In the case of deliveries of standard products, the transfer of risks and rewards in accordance with the delivery terms (Incoterms) is particularly significant. As a result, the revenue from standard products is recognized at the point in time when control passes to the customer. The point in time at which control passes may vary depending on the contractual arrangements and delivery terms and may be between the time when the products are made available at the warehouse and when the customer receives them.

OSRAM sells not only standard products but also customer-specific products, i.e., products that OSRAM can sell to only one customer because of their specifications and therefore have no other use for OSRAM. The revenue from these products is recognized after production has finished. Long-term framework agreements are particularly common in the automotive industry. However, if no delivery quantity or prices have been agreed, there is no binding contract pursuant to IFRS 15 and no revenue is recognized.

Royalties are recognized at a point in time or over a period of time in accordance with the substance of the underlying contract governing the transfer of the benefit.

Rebates, bonuses, cash discounts, credit notes and other variable price reductions that OSRAM grants to the customer are recognized as a reduction of revenue. If they do not reduce the invoice amount directly, they are recognized as refund liabilities until they are subsequently paid to the customer. Estimates of revenue reductions are primarily based on past experience, the contractual provisions, and expectations regarding future revenue, particularly in the case of tiered bonuses.

OSRAM exercises the option pursuant to IFRS 15.63, so it does not have to adjust the promised amount of consideration for the effects of a financing component if the payment terms are less than one year. As a rule, OSRAM fulfills its performance obligations over an originally expected period of up to one year, so it also exercises the option pursuant to IFRS 15.122. It therefore does not provide further disclosures about the remaining performance obligations at the end of a reporting period.

Warranties that OSRAM provides for products or services generally cover only the contractually agreed product specifications for the statutory periods or for the periods that are usual in the industry. OSRAM therefore recognizes warranty agreements as a provision in accordance with the rules of IAS 37 rather than as part of its performance obligations.

IAS 18/IAS 11 (Until September 30, 2018)

Provided there is persuasive evidence that an arrangement exists or delivery has occurred, revenue is recognized to the extent that it is probable that the economic benefits will flow to OSRAM and the revenue can be reliably measured, regardless of when the payment will be made. In cases where the inflow of economic benefits is not probable because of customer-related credit risks, revenue is recognized on the basis of customer payments irrevocably received. Revenue is measured at the fair value of the consideration received or receivable, net of discounts and rebates, and excluding taxes or duty. OSRAM assesses its revenue arrangements against specific criteria in order to determine if it is acting as principal or agent.

The following specific recognition criteria must also be met before revenue is recognized:

- Sale of goods
Revenue from the sale of goods is recognized when the significant risks and rewards of ownership of the goods have passed to the buyer, usually on delivery of the goods. If product sales are subject to customer acceptance, revenue is not recognized until the customer has accepted the goods.
- Royalties
Royalties are recognized on an accrual basis in accordance with the substance of the relevant agreement.

Functional Costs

In general, operating expenses are assigned to the individual functional cost types on the basis of the function of the corresponding cost centers or using an appropriate allocation principle.

Amortization/depreciation charges, impairment losses, and reversals of impairment losses on intangible assets and on property, plant, and equipment are recognized in *Cost of goods sold and services rendered*, *Research and development expenses*, or *Marketing, selling, and general administrative expenses*, depending on the asset's use.

Government Grants

Government grants are recognized when there is reasonable assurance that the conditions attached to the grants will be complied with and the grants will be received. Grants awarded for the purchase or the production of non-current assets (grants related to assets) are generally offset against the cost of the respective asset and reduce future depreciation charges accordingly. Grants awarded other than for non-current assets (grants related to income) are reported in the consolidated statement of income under the same function as the corresponding expenses. They are recognized as income over the periods necessary to match them on a systematic basis to the costs that are intended to be compensated. Government grants for future expenses are recognized as deferred income.

Research and Development Expenses

Costs of research activities are expensed as incurred. Costs for development activities are capitalized if the development costs can be measured reliably, the product or process is technically and commercially feasible, and it is probable—based on budgets for the future—that future economic benefits will be generated. OSRAM must also have the intention and sufficient resources to complete development and to use or sell the asset.

The costs capitalized include the cost of materials, direct labor, and other directly attributable expenditure that serves to prepare the asset for use. Capitalized development expenditure is reported under *Other intangible assets* and is carried at cost less accumulated amortization and impairment losses with an amortization period of generally three to five years. Other development costs are expensed as incurred.

Government grants for research and development activities are offset against research and development expenses. They are recognized pro rata as income over the periods in which the research and development expenses that are to be compensated are incurred. Government grants for future research and development expenses are recognized as deferred income.

Interest and Dividends

Interest income and expenses are recognized using the effective interest method. Dividends are recognized when the right to receive payment is established.

Earnings per Share

Basic earnings per share is calculated by dividing income (loss) from continuing operations, income (loss) from discontinued operations (if applicable), and net income (loss), in each case attributable to the shareholders of OSRAM Licht AG, by the weighted average number of shares outstanding during the fiscal year. Diluted earnings per share is calculated on the basis of the assumption that all potentially dilutive securities and share-based payment programs will be converted or exercised, as applicable.

Goodwill

Goodwill is not amortized, but instead tested for impairment annually, as well as whenever there are events or changes in circumstances (triggering events) which suggest that the carrying amount may not be recoverable. Goodwill is carried at cost less accumulated impairment losses.

The goodwill impairment test is performed at the level of a cash-generating unit or a group of cash-generating units, which is the lowest level at which goodwill is monitored by management for internal purposes.

If the carrying amount of the cash-generating unit exceeds its recoverable amount, an impairment loss is recognized on the goodwill allocated to this cash-generating unit. The recoverable amount is the higher of the cash-generating unit's fair value less costs of disposal and its value in use. If either of these amounts exceeds the carrying amount, it is not necessary to determine both amounts. These values are generally determined using the discounted cash flow method. Impairment losses on goodwill are not reversed in future periods if the recoverable amount exceeds the carrying amount of the cash-generating unit to which the goodwill is allocated.

In the case of subsidiaries with non-controlling interests, any notional impairment loss is proportionally attributed to the unrecognized goodwill (under the partial goodwill method); this is calculated for the non-controlling interests by extrapolation from the goodwill that is recognized. This portion of the impairment loss is therefore not recognized in the consolidated statement of income.

Other Intangible Assets

Other intangible assets are carried at cost and consist of software and other internally generated intangible assets, patents, licenses, and similar rights. The Company amortizes intangible assets with finite useful lives on a straight-line basis over their respective estimated useful lives to their estimated residual values. The estimated useful lives for software, patents, licenses, and other similar rights generally range from three to eight years, although other useful lives are possible, particularly for intangible assets with finite useful lives acquired in business combinations.

Intangible assets acquired in business combinations primarily consist of patented and unpatented technology and customer relationships. Useful lives were up to 17 years for patented and unpatented technology and between two and 16 years for customer relationships. Intangible assets determined to have indefinite useful lives, as well as intangible assets not yet available for use, are not amortized, but instead tested for impairment at least annually.

Property, Plant, and Equipment

Property, plant, and equipment is measured at cost less accumulated depreciation and impairment losses. If the costs of certain components of an item of property, plant, and equipment are significant in relation to the total cost of the item, they are accounted for and depreciated separately. Depreciation expense is recognized using the straight-line method. Residual values and useful lives are reviewed annually and, if expectations differ from previous estimates, adjusted accordingly. The following useful lives are assumed:

Useful Lives

Buildings	20 to 50 years
Technical machinery and equipment	5 to 15 years
Furniture and office equipment	5 to 6 years

Impairment Losses and Reversals of Impairment Losses

OSRAM tests property, plant, and equipment, investments accounted for using the equity method, and other intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. In addition, intangible assets that are determined to have indefinite useful lives, intangible assets not yet available for use, and goodwill are subject to an impairment test at least once a year. Recoverability of assets is determined by comparing the carrying amount of the asset with the recoverable amount. Determining the recoverable amount of an asset or a cash-generating unit in connection with which the asset generates cash inflows that are largely independent of the cash inflows from other assets involves the use of estimates by management. These estimates are influenced by certain factors, for example expected economic growth trends, the successful integration of acquired entities, capital market volatility, interest rate movements, and foreign exchange rate fluctuations. The recoverable amount is the higher of the asset's value in use and its fair value less costs of disposal. An asset's value in use is measured by discounting its estimated future cash flows. If assets do not generate cash inflows that are largely independent of those from other assets or groups of assets, the impairment test is not performed at an individual asset level; instead it is performed at the level of the cash-generating unit to which the asset belongs. If the carrying amount of an asset or cash-generating unit is found to exceed its recoverable amount, the difference is recognized as an impairment loss. If there is an indication that the reasons for the impairment no longer apply, OSRAM assesses the need to reverse all or a portion of the impairment loss.

OSRAM generally uses discounted cash flow methods to determine these values. As a rule, these discounted cash flow calculations use five-year projections—and extended detailed planning in justified exceptional cases—that are based on business plans. Cash flow projections take into account past experience, current operating results, and market assumptions, and represent management's best estimate of future performance. Cash flows after the planning period are extrapolated using individual growth rates. Key assumptions on which management has based its determination of the recoverable amount include estimated growth rates and the weighted average cost of capital. These estimates, including the methodology used, can have a material impact on the respective values and ultimately on the amount of the impairment loss on any asset that is tested for impairment. The estimate of growth rates takes into account expectations of inflation and market growth, as well as macroeconomic data and industry-specific trends.

Income Taxes

OSRAM operates in various tax jurisdictions and is thus subject to a wide variety of tax laws and regulations. The tax items presented in the financial statements are determined in accordance with the applicable local tax laws and tax authority directives, which can be complex, resulting in interpretations by the taxpayer that could be different from those of the local tax authorities.

Tax expense includes current and deferred taxes. These are recognized in profit or loss unless they are related to a business combination or to items that are recognized directly in equity or in other comprehensive income.

Current tax assets and liabilities are measured at the amount expected to be refunded by or payable to the tax authority. The possibility that individual current or other refund claims may not be successful cannot be entirely ruled out. Measurement of the amount is based on the tax rates and laws that apply at the end of the relevant reporting period in those countries in which the Group operates.

Deferred tax assets and liabilities are recognized using the balance sheet liability method for existing temporary differences between the carrying amount of assets or liabilities in the statement of financial position and their tax base at the end of the reporting period. Deferred tax assets and liabilities are measured using the tax rates expected to apply at the end of the reporting period in which an asset will be recovered or a liability will be settled. The expectation is based on the tax rates in effect as of the reporting date. Deferred tax assets are recognized for all deductible temporary differences, unused tax loss carryforwards, and unused tax credits to the extent that it is probable that future taxable income will be available against which the deductible temporary differences, unused tax loss carryforwards, and unused tax credits can be utilized.

When measuring current and deferred tax items, OSRAM takes into account the effects of uncertain tax items. It assesses these items on the basis of estimates and assumptions, which may involve the exercise of management judgment in respect of a range of future events. New information may become available that causes OSRAM to modify its assessment of the appropriateness of existing tax items. Any such changes in tax items will affect net income (loss) in the period in which they are reassessed. We cannot rule out the possibility that the tax and customs authorities (for example, following current or future tax/customs investigations or audits) and/or the courts may decide that OSRAM is subject to additional liabilities or that the provisions recognized for these liabilities are inadequate. Reasons could include the rejection of some of the transfer prices applied to intragroup sales of goods and services, issues connected with permanent establishments, or the audit of items that could trigger indirect taxes or customs duties. Such decisions could also cause temporary cash outflows in addition to their impact on profit or loss.

Deferred tax assets are recognized if sufficient taxable income will be available in the future. This assessment takes into account a number of factors, including projected earnings from operating activities and possible tax strategies. As of the end of each reporting period, management evaluates the recoverability of deferred tax assets, based on projected future taxable profits. In the case of tax loss carryforwards, a five-year period is generally applied. As future developments are uncertain and partly beyond management's control, important assumptions, such as estimates of future taxable profits and the period in which deferred tax assets will be recoverable, are based on best estimates. Estimates are revised in the period in which there is sufficient evidence to revise the assumption. If management considers it probable that some or all of a deferred tax asset cannot be recovered, a corresponding valuation allowance is recognized. Unrecognized deferred tax assets are reassessed at the end of each reporting period and are recognized to the extent that it has become probable that sufficient future taxable profit will be available to allow the deferred tax asset to be recovered. The amount of any tax loss carryforwards and temporary differences, as well as of the deferred taxes recognized in respect of such items, could be adversely affected by tax audits in the future.

Future changes in tax laws and regulations, as well as their interpretation, and other changes in tax systems could materially affect our existing tax assets and liabilities, as well as our deferred tax assets and liabilities, and thus result in a higher expense for direct and indirect taxes, and in higher tax payments. Additionally, uncertainties affecting the tax environment in some regions could impair our ability to enforce our rights.

Assumptions are used to determine the breakdown of income taxes into current and deferred taxes in the Notes and the breakdown of income taxes paid in the statement of cash flows because the reporting of discontinued operations makes the effort required to determine a precise breakdown unreasonable.

Inventories

OSRAM recognizes inventories at the lower of cost and net realizable value, with cost being generally determined on the basis of the average cost method or first-in, first-out (FIFO) method. Production cost comprises direct material, labor costs, and assignable portions of material and production overheads, including associated depreciation charges; fixed-cost components are allocated on the basis of normal production facility capacity. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses.

Non-current Assets Held for Sale and Discontinued Operations

A discontinued operation is reported as soon as a component of an entity with operations and cash flows that can be clearly distinguished, operationally and for financial reporting purposes, from the rest of the entity is classified as held for sale or has already been disposed of and the component (1) represents a separate major line of business or geographical area of operations, (2) is part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations, or (3) is a subsidiary acquired exclusively with a view to resale. The gain or loss from operating activities or from the disposal of discontinued operations is reported in the consolidated statement of income separately from the income and expenses attributable to continuing operations; prior-year figures are presented on a comparable basis. In the consolidated statement of cash flows, the cash flows from discontinued operations are presented separately from the cash flows related to continuing operations; prior-year figures are presented on a comparable basis. The disclosures in the notes to the consolidated financial statements (except for [Note 4 | Acquisitions, Disposals, and Discontinued Operations](#)) that make reference to the consolidated statement of income and the consolidated statement of cash flows generally relate to continuing operations unless otherwise indicated. OSRAM reports discontinued operations separately under [Note 4 | Acquisitions, Disposals, and Discontinued Operations](#). Revenue and expenses arising from intragroup transactions between continuing operations and the discontinued operation are eliminated for the purposes of presenting the financial impact from discontinued operations. The presentation does not include any profits or losses whatsoever from intragroup transactions.

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OSRAM classifies a non-current asset (or a disposal group) as held for sale if its carrying amount will be recovered principally through a sale transaction or a distribution to shareholders rather than through continuing use. For this to be the case, the asset (or disposal group) must be available for immediate sale or distribution in its present condition, subject only to terms that are usual and customary for sales/distributions of such assets (or disposal groups), and its sale/distribution must be highly probable. The disclosures in the notes to the consolidated financial statements that make reference to the consolidated statement of financial position generally relate to assets that are not held for sale unless otherwise indicated. OSRAM reports non-current assets held for sale (or disposal groups) separately under [Note 4 | Acquisitions, Disposals, and Discontinued Operations](#). Non-current assets classified as held for sale and disposal groups are measured at the lower of their carrying amount and fair value less costs to sell unless those items presented in the disposal group are not part of the scope of measurement as defined in IFRS 5 *Non-current Assets Held for Sale and Discontinued Operations*. Estimates and assumptions subject to some uncertainty are involved in determining the date on which a non-current asset (or disposal group) is classified as held for sale and in determining the fair value less costs to sell. These estimates and assumptions include, in particular, estimates in connection with price adjustment mechanisms, which depend on future changes up to the date on which the transaction is concluded.

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Defined Benefit Plans

OSRAM measures the benefit entitlements under defined benefit plans using the projected unit credit method. For unfunded plans, OSRAM recognizes a provision equal to the defined benefit obligation (DBO). For funded plans (plan assets), OSRAM offsets the fair value of the plan assets against the DBO. Taking into account any effects relating to the asset ceiling, a deficit is recognized in the *Pension plans and similar commitments* line item or a surplus is recognized in the *Other assets* line item.

The measurements rely on financial and demographic assumptions, including the discount rate (for information on effects, see [› Note 21 | Pension Plans and Similar Commitments](#)), assumptions regarding trends in salaries, pensions, and healthcare costs, and mortality tables. The discount rate assumptions are determined by reference to market yields on high-quality corporate bonds at the end of the reporting period. In countries where there is no deep market in such corporate bonds, market yields on government bonds are used. Both the currency and the maturity of the underlying corporate or government bonds are matched to the currency and estimated maturity of the benefit payments. Due in particular to changing market and economic conditions, actual developments may differ from the underlying assumptions and could have a significant impact on pension plans and similar commitments.

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Remeasurements of the net defined benefit liability (asset) are recognized in *Other comprehensive income (loss), net of tax* in the year in which they arise, as a result of which they are reported in full in equity, net of tax.

Provisions

A provision is recognized in the statement of financial position when OSRAM has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation. Provisions are measured taking into account all identifiable risks at the expected settlement amount, which is determined on the basis of a best estimate using suitable estimation methods and sources of information depending on the characteristics of the obligation. Individual obligations (e.g., legal and litigation risks, obligations to customs and tax authorities) are measured at the most likely outcome unless other estimates result in a more appropriate measurement due to particular probability distributions for possible outcomes.

Specific provisions are recognized for warranty claims that are known about by the reporting date. OSRAM also recognizes provisions if warranty claims are likely based on specific past operational or industry experience. The expense for product warranties is recognized within the *Cost of goods sold and services rendered*.

Provisions for restructuring measures are recognized if a detailed, formal restructuring plan has been drawn up and announced to those affected by it.

Termination benefits are recognized as an expense and a liability when the entity has demonstrably committed itself, as part of restructuring measures or by otherwise creating a valid expectation, to provide the benefits. OSRAM is implementing restructuring programs and individual measures to terminate employment contracts. Expenses in conjunction with terminating employment contracts and other exit costs are subject to estimates and assumptions to a significant extent. These include, for example, the probability of acceptance in respect of an offer to terminate employment contracts and the nature of the measures. In the case of group agreements in Germany, the formal restructuring plan is generally detailed by an agreement on a reconciliation of interests and a social compensation plan reached between the employer and the workforce. Further information is available in [› Note 5 | Personnel-related Restructuring Expenses](#).

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OSRAM is subject to litigation, regulatory proceedings, and investigations by authorities in various jurisdictions. Such proceedings may result in criminal or civil sanctions, penalties, or disgorgement orders against the Company. Litigation, regulatory proceedings, or investigations by authorities often involve complex legal issues and are subject to substantial uncertainties. Accordingly, management exercises considerable judgment in determining whether there is a present obligation as a result of a past event at the end of the reporting period, whether it is more likely than not that such an obligation will result in an outflow of resources, and whether the amount of the obligation can be reliably estimated. The required amount of a provision may change in the future due to new developments in the particular matter concerned. [› Note 22 | Provisions](#), [› Note 24 | Other Financial Commitments and Contingent Liabilities](#), and [› Note 25 | Legal Proceedings](#).

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When a contract becomes onerous, the present obligation under the contract is recognized as a provision and measured at the amount by which the expected cost of fulfilling the contract or the expected cost of terminating the contract—on the basis of full costs in both cases—exceeds the expected economic benefits of the contract, whichever is the lower.

If the effect of the time value of money is material, provisions are discounted using pre-tax risk-adjusted market interest rates.

Leasing

The determination of whether an arrangement is or contains a lease is based on the substance of the arrangement at the inception date. The decisive factor is whether fulfillment of the arrangement is dependent on the use of a specific asset or assets and the arrangement conveys a right to use the asset. Leases of assets under which substantially all the risks and rewards of ownership are retained by the lessor are classified as operating leases. Payments made under operating leases are recognized in the consolidated statement of income on a straight-line basis over the term of the lease. Finance leases in which substantially all the risks and rewards incidental to ownership of the leased asset are transferred to OSRAM as lessee are recognized in the statement of financial position at the inception of the lease at the lower of the fair value of the leased asset and the present value of the minimum lease payments.

Financial Instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Financial instruments are recognized in the statement of financial position when OSRAM becomes a party to the contractual obligations of the instrument. Regular way purchases or sales of financial assets, i.e., purchases or sales under a contract whose terms require delivery of the asset within the time frame established generally by regulation or convention in the marketplace concerned, are accounted for at the trade date.

Financial instruments are initially recognized at their fair value. Transaction costs directly attributable to the acquisition or issue of financial instruments are only taken into account in determining the carrying amount if the financial instruments are not measured at fair value through profit or loss.

Classification in Accordance with IFRS 9 (Since October 1, 2018)

Financial assets and liabilities are subsequently measured according to the category to which they are assigned:

- Financial assets measured at amortized cost (FAaC),
- Financial assets measured at fair value through other comprehensive income without recycling to profit or loss (FVOCI),
- Financial assets measured at fair value through profit or loss (FVPL),
- Financial liabilities measured at amortized cost (FLaC), or
- Financial liabilities measured at fair value through profit or loss (FVPL).

Classification in Accordance with IAS 39 (Until September 30, 2018)

Financial assets and liabilities were subsequently measured according to the category—cash and cash equivalents, available-for-sale financial assets (AfS), loans and receivables (LaR), financial liabilities measured at amortized cost (FLaC), or financial assets and liabilities classified as held for trading (FAHfT and FLHfT)—to which they were assigned.

Under IAS 39, most financial instruments were measured at cost using the effective interest method (less any impairment losses in the case of financial assets).

Financial instruments are derecognized when they have been repaid by the debtor. Repayment usually takes place in the form of a payment from the debtor to the creditor. They are derecognized due to being uncollectible if it is unlikely that a receivable can be recovered in the future. This is generally the case if a limitation period has ended, if a debtor has been legally released from the original obligation, or if insolvency proceedings have not been opened due to insufficient assets. The obligation is also derecognized by the creditor if the creditor transfers the financial asset to another party and has not retained any significant risks and rewards from that financial asset.

Financial Assets

The financial assets of OSRAM mainly include cash and cash equivalents, trade receivables and other financial assets, equity instruments, interests in investment entities, and derivative financial instruments with a positive fair value.

All highly liquid assets with a maturity of less than three months from the date of acquisition are considered to be cash equivalents. Cash and cash equivalents are measured at amortized cost.

Each financial asset is classified and measured on the basis of its business model and the characteristics of its cash flows. Trade receivables that are to be sold under factoring agreements are measured either at fair value through profit or loss or at fair value through other comprehensive income with recycling to profit or loss, depending on the arrangements in the individual agreement.

As a rule, OSRAM exercises the option to recognize changes in the fair value of equity instruments that it holds as a strategic investment in other comprehensive income (financial assets measured at fair value through other comprehensive income without recycling to profit or loss (FVOCI)). If the equity instruments are sold, fair value gains and losses are not reclassified from equity to the statement of income. This option can generally be exercised irrevocably for a specific equity instrument when it is acquired. Where this option is not exercised, equity instruments have to be recognized at fair value through profit or loss.

Because of their contractual arrangements, OSRAM's interests in investment entities have to be classified as debt instruments and are measured at fair value through profit or loss. The change in the fair value of equity instruments and interests in investment entities measured at fair value through profit or loss is recognized under other financial income (expenses), net, in the statement of income.

Financial assets measured at amortized cost comprise financial assets whose cash flows consist of payments of interest and principal and that are held as part of a business model in which the instruments are held in order to collect the contractual cash flows. Measurement at amortized cost covers loss allowances for expected credit losses and use of the effective interest method. Financial assets measured at amortized cost with a maturity of more than one year that are interest-free or have lower-than-market interest rates are discounted in line with the level of risk.

The simplified approach is used to calculate the loss allowances for trade receivables and contract assets. This involves calculating the lifetime expected credit losses. For the bulk of the financial instruments, the expected credit losses are calculated on the basis of the customers' individual credit ratings, which are then used to determine portfolio-specific default rates. Based on credit ratings provided by external agencies, the financial instruments are grouped in risk categories with low, moderate, and higher credit risk. There is a fourth and highest category to which insolvent counterparties are assigned. Each risk category is given a different expected default rate, on the basis of which the loss allowances are calculated. Expected credit losses for receivables for which the simplified approach cannot be used are calculated for a period of twelve months. If the credit risk for such receivables has increased significantly since initial recognition, the lifetime expected credit losses are calculated. External information from rating agencies is mainly drawn upon to assess whether this is the case, but other available information is also used.

The expected credit losses for some trade receivables are predominantly calculated using analysis of historical bad debts and the age structure. Receivables that are past due by more than 90 days, including receivables from debtors against whom insolvency or similar proceedings have been opened, are considered to be in default and are classified as credit-impaired receivables in stage 3 of the impairment model. These receivables are examined to assess whether additional individual loss allowances are required. The allowance for credit-impaired receivables involves significant management judgment and review of individual receivables based on the creditworthiness of each customer, current economic trends, and other factors. Loss allowances for trade receivables are recognized using separate allowance accounts.

Financial Liabilities

The financial liabilities of OSRAM mainly comprise loans from banks, trade payables, finance lease payables, and derivative financial instruments with a negative fair value. OSRAM does not make use of the option to designate financial assets or financial liabilities at fair value through profit or loss at inception (fair value option).

With the exception of derivative financial instruments and contingent consideration obligations in the context of acquisitions, OSRAM measures financial liabilities at amortized cost using the effective interest method.

Contingent consideration obligations in the context of acquisitions are recognized as a liability at the expected amount. Subsequent adjustments to contingent consideration are recognized in profit or loss. The fair value of the liability is calculated on the basis of the current estimate of the affected business entities' key performance indicators that are used to determine the contingent consideration.

Derivative Financial Instruments

Derivative financial instruments are measured at fair value through profit or loss unless they are designated as hedging instruments to which hedge accounting is applied. The effective portion of changes in the fair value of derivative instruments designated as cash flow hedges is recognized in Other comprehensive income (loss), net of tax (i.e., net of applicable deferred income taxes). The ineffective portion is recognized immediately in the consolidated statement of income. Amounts accumulated in equity are reclassified to the consolidated statement of income in the same period in which the relevant hedged items are recognized in the consolidated statement of income or if the underlying hedged item is no longer expected to materialize. Derivative financial instruments are recognized under other current financial assets and other current financial liabilities in the statement of financial position.

Share-based Payment

OSRAM has launched equity-settled share-based payment programs. In accordance with IFRS 2, the fair value calculated for equity-settled share-based payments at the grant date is recognized as a remuneration expense over the vesting period, if applicable taking account of service conditions and non-market vesting conditions. The fair value is determined at the market price of OSRAM Licht shares, taking into account the present value of dividends during the vesting period to which the grantees are not entitled and, to the extent necessary, certain market and non-vesting conditions. Additional information on OSRAM's share-based payment programs can be found in [▶ Note 30 | Share-based Payment](#).

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Issued Accounting Pronouncements, not yet Adopted

The following pronouncements issued by the IASB are not yet effective and have not yet been adopted by OSRAM.

IFRS 16 Leases

On January 13, 2016, the IASB published the final version of IFRS 16 *Leases*, its standard addressing the accounting treatment of leases. IFRS 16 specifies a single accounting model for lessees in which a lessee is required to recognize a right-of-use asset and a lease liability in its statement of financial position on the commencement date. In an exemption, a lessee may elect not to apply the requirement to recognize a right-of-use asset and a lease liability for short-term leases with a term of no more than twelve months or leases in which the underlying asset is of low value. Instead, the lessee must then recognize the lease payments associated with those leases as an expense on either a straight-line basis over the lease term or another systematic basis. The rules for lessors are largely unchanged from those specified in IAS 17. The new standard for leases also includes stipulations governing reporting, disclosures, and sale-and-leaseback transactions. IFRS 16 supersedes IAS 17 and the related interpretations (IFRIC 4, SIC-15, and SIC-27); application is mandatory in annual periods beginning on or after January 1, 2019. The standard was adopted into European law in November 2017.

OSRAM will apply IFRS 16 for the first time at the start of fiscal year 2020. When applying the new rules of IFRS 16 for the first time, companies can choose between full retrospective adoption and modified retrospective adoption. OSRAM has decided on modified retrospective adoption, which means that it will not restate the comparative figures for fiscal year 2019 when it applies the new rules for the first time in fiscal year 2020. OSRAM mainly acts as a lessee. At the time of transition to IFRS 16, payment obligations under existing operating leases will be discounted at the relevant incremental borrowing rate of interest and recognized as a lease liability. The incremental borrowing rates of interest used are based on the risk-free interest rates for the currency area in question and term of the relevant lease, adjusted for an OSRAM-specific funding interest-rate premium. The right-of-use assets will be carried in the amount of the discounted lease liabilities, adjusted for the advance lease payments that had been made before October 1, 2019, and were previously deferred.

During the IFRS 16 implementation project, the most significant impact identified is that the Group will recognize new assets and liabilities for its operating leases, particularly in connection with the rental of buildings. For an overview of the payment obligations under operating leases, see also [Note 24 | Other Financial Commitments and Contingent Liabilities](#). Furthermore, the nature of the expenses associated with these leases will change because IFRS 16 replaces the expenses recognized for operating leases using the straight-line method with depreciation charges for the right-of-use asset and interest expenses for the lease liability. Lease payments and the interest portion will be shown as net cash provided by (used in) financing activities in the statement of cash flows.

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A preliminary analysis of these effects based on the information currently available shows that the transition will increase total assets by approximately €240 million. Right-of-use assets are shown separately in the statement of financial position. The rise in lease liabilities will cause debt to go up. The boost to EBITDA is currently expected to be around €50 million. The new accounting rules in IFRS 16 will have no significant impact on net income (loss) in the consolidated statement of income.

In accordance with the exemption, lease payments for short-term leases with a term of no more than twelve months and for leases in which the underlying asset is of low value will continue to be recognized as an expense. Contracts that contain both leasing and non-leasing components will not be separated for the purpose of calculating the discounted lease liability and the right-of-use asset.

Particularly in the case of contracts with extension options and cancellation options, assessments of whether these options will be exercised have to be made in order to determine the term of the lease. Adjustments will be made over the course of the lease if new information about the exercise of options emerges that results in remeasurement of the right-of-use asset and lease liability.

IFRIC 23 Uncertainty over Income Tax Treatments

In June 2017, the IASB published IFRIC 23 *Uncertainty over Income Tax Treatments*, which is the final interpretation for IAS 12 *Income Taxes*. The interpretation addresses the accounting of income taxes when tax treatments involve uncertainty that affects the application of IAS 12. It does not apply to taxes or levies outside the scope of IAS 12 and does not contain any provisions on interest or penalties in connection with uncertain tax treatments.

The interpretation specifically addresses the following topics:

- Decisions about whether an entity should consider uncertain tax treatments separately
- Assumptions that an entity makes about the examination of tax treatments by the tax authorities
- Determination of the taxable profit (tax loss), tax bases, unused tax losses, unused tax credits, and tax rates
- Consideration of changes in facts and circumstances.

An entity has to determine whether to consider each uncertain tax treatment separately or in combination with one or more other uncertain tax treatments. It should select the approach that better predicts how the uncertainty will be resolved. The interpretation comes into force for reporting periods beginning on or after January 1, 2019. OSRAM will apply the interpretation for the first time at the start of fiscal year 2020. There will be no significant impact on the Group's tax positions.

31 Impact of First-time Adoption of New Accounting Pronouncements

The accounting pronouncements of significance to the consolidated financial statements are set out below.

IFRS 9 Financial Instruments

IFRS 9 *Financial Instruments* supersedes IAS 39 *Financial Instruments: Recognition and Measurement* for annual periods beginning on or after January 1, 2018. The new standard covers all three aspects of accounting for financial instruments: classification and measurement, impairment, and hedge accounting.

OSRAM adopted IFRS 9 prospectively at the start of fiscal year 2019. In accordance with the transitional provisions for IFRS 9, the comparative figures for fiscal year 2018 were not restated and are shown on the basis of IAS 39 instead. The effects of first-time adoption were recognized in retained earnings. The main changes to accounting policies stemming from IFRS 9 that are relevant to OSRAM are as follows:

- The accounting treatment has changed for trade receivables from customers that are sold to a factoring company in connection with supply-chain financing programs. They now need to be measured at fair value through profit or loss under IFRS 9, whereas they were previously measured at amortized cost under IAS 39. After taking account of deferred taxes, this gave rise to a negative adjustment of €2 million in retained earnings as of October 1, 2018.
- OSRAM exercises the option to continue measuring equity instruments that it holds as a strategic investment at fair value through other comprehensive income. By contrast with IAS 39, if the equity instruments are subsequently sold, fair value gains and losses are not reclassified from equity to the statement of income.
- According to IFRS 9, OSRAM's interests in investment entities have to be measured at fair value through profit or loss. Under IAS 39, changes in fair value had to be recognized in other comprehensive income.

IFRS 9 contains a new expected loss impairment model. For the bulk of the receivables, the loss allowances will continue to be calculated on the basis of the customer's individual credit rating, as was the case under IAS 39. Therefore, there was no impact on the level of accumulated loss allowances at the time of initial application of IFRS 9.

The rules on hedge accounting also changed as a result of IFRS 9. OSRAM uses derivative financial instruments, especially forward exchange contracts, to hedge against exchange rate fluctuations. Certain derivative financial instruments that are used to hedge forecast transactions and executory contracts and that meet the requirements for hedge accounting are accounted for as cash flow hedges. OSRAM uses the option granted by the IASB to continue applying the IAS 39 rules on hedge accounting until the IFRS 9 rules on macro hedge accounting have been finalized.

IFRS 9 takes a new approach to the classification and measurement of financial assets that reflects the business model under which the assets are held and the characteristics of their cash flows. The following table shows the carrying amounts of financial instruments according to their classification under IAS 39 as of September 30, 2018, and their classification under IFRS 9 as of October 1, 2018.

Reconciliation of the Carrying Amounts of Financial Instruments from IAS 39 to IFRS 9 categories

in € million

	Category according to IAS 39	Category according to IFRS 9	Carrying amount according to IAS 39 as of September 30, 2018	Reclassification	Remeasurement	Carrying amount according to IFRS 9 as of October 1, 2018
Financial assets						
Cash and cash equivalents	n.a.	FAaC	333			333
Available-for-sale financial assets (non-current)	AfS	FVPL/FVOCI	5	(5)		–
Trade receivables	LaR	FAaC	614	(65)		549
Trade receivables that are to be sold under supply-chain financing programs	LaR	FVPL	–	65	(3)	62
Other financial assets						
Derivatives not designated in a hedge accounting relationship	FAHfT	FVPL	4			4
Equity instruments	AfS	FVOCI	–	3		3
Interests in investment entities	AfS	FVPL	–	2		2
Other financial assets	LaR	FAaC	60			60
Assets held for sale	LaR	FAaC	34			34
Financial liabilities						
Debt						
Loans from banks	FLaC	FLaC	368			368
Other debt	FLaC	FLaC	17			17
Trade payables	FLaC	FLaC	714			714
Other financial liabilities						
Derivatives not designated in a hedge accounting relationship	FLHfT	FVPL	7			7
Derivatives in connection with cash flow hedges	n.a.	n.a.	9			9
Other financial liabilities	FLaC	FLaC	49			49
Liabilities associated with assets held for sale	FLaC	FLaC	8			8

IFRS 15 Revenue from Contracts with Customers

IFRS 15 *Revenue from Contracts with Customers* supersedes IAS 11 *Construction Contracts*, IAS 18 *Revenue*, and the related interpretations. The standard contains a five-step model for revenue recognition that has to be applied to all contracts with customers. IFRS 15 stipulates when, and in what amount, revenue has to be recognized for the performance obligations in a contract.

OSRAM adopted IFRS 15 on October 1, 2018, using the modified retrospective method, which means comparative figures for fiscal year 2018 were not restated and the IFRS 15 rules were applied only to contracts that had not been completed at the time of first-time adoption. The cumulative effect of first-time adoption was recognized in the opening balance of retained earnings as of October 1, 2018.

The main changes to accounting policies stemming from IFRS 15 that are relevant to OSRAM are as follows:

- **Transportation:** The concept of the passing of control pursuant to IFRS 15 may, depending on the contractual provisions and delivery terms, cause revenue to be recognized later than under the previous accounting treatment.
- **Consignment warehouse:** Where a consignment warehouse is located at the customer's premises, revenue may be recognized earlier than under the previous accounting treatment if, due to the contractual arrangements, control passes to the customer before the customer has withdrawn goods from the warehouse.
- **Customer-specific manufacturing:** In the case of products whose specifications mean that they can be sold to only one particular customer, revenue may be recognized earlier over a period of time than under the previous accounting treatment.

After taking account of deferred taxes, these gave rise to a positive adjustment of €1 million in retained earnings as of October 1, 2018.

Impact on the Consolidated Statement of Income

The negative impact on revenue in fiscal year 2019 resulting from changes to the timing of revenue recognition was €5 million. However, there was a countervailing decrease of €4 million in the cost of goods sold and services rendered, which means that income (loss) before income taxes (continuing operations) was €1 million lower under IFRS 15 than it would have been under the previous method of revenue recognition. After taking account of a positive effect from deferred income taxes of €0 million, the negative effect on net income (loss) was €1 million.

Impact on the Consolidated Statement of Financial Position

The application of IFRS 15 affected the consolidated statement of financial position as of September 30, 2019, as follows:

- There has been a change of accounting treatment for payment obligations under rebate and bonus agreements that were previously recognized as a deduction from trade receivables. Under IFRS 15, they are recognized as refund liabilities in other current financial liabilities. They amounted to €55 million as of September 30, 2019.
- Advance payments received from customers for future deliverables, which were previously recognized as a deduction from inventories, are now recognized separately as contract liabilities. The effect of this reclassification was €5 million as of September 30, 2019.
- For the matters described above, contract assets (consignment warehouse and customer-specific manufacturing) and contract liabilities (transportation) continued to be recognized and shown separately in the consolidated statement of financial position.

Effects from first-time application of IFRS 15 on the Consolidated Statement of Financial Position as of September 30, 2019

in € million

	as reported	impact IFRS 15	without application IFRS 15
Total assets	4,335	(69)	4,266
therein trade receivables	558	(55)	503
therein contract assets	9	(9)	–
therein inventories	692	(5)	687
Total liabilities	2,252	(69)	2,183
therein other current financial liabilities	113	(55)	58
therein contract liabilities	15	(15)	–
Total equity	2,083	–	2,083

B.6.3 Acquisitions, Disposals, Disposal Groups, and Discontinued Operations

4.1 Acquisitions, Disposals, and Discontinued Operations

Acquisition of Ring Automotive

On December 13, 2018, OSRAM contractually agreed to purchase the shares in RGI Light (Holdings) Limited, and its subsidiaries RGI Light Limited, and Ring Automotive Limited, all based in Leeds, Great Britain ('Ring Automotive'). Ring Automotive, headquartered in Great Britain, is one of Europe's leading suppliers in the market for motor vehicle retrofitting and spare parts. Its product portfolio includes high-specification vehicle lighting, vehicle maintenance products, workshop equipment, and equipment programs for company vehicles and commercial vehicles, supplementing OSRAM's range of traditional automotive lighting in the Automotive (AM) Business Unit. The transaction was completed on May 1, 2019. The preliminary purchase price, which amounted to approximately GBP 43 million (around €50 million) including cash acquired of GBP 2 million (around €2 million), was settled in cash.

The following disclosures resulting from the preliminary purchase price allocation show the values recognized as of the acquisition date for the major groups of assets acquired and liabilities assumed: intangible assets €27 million, inventories €14 million, receivables €9 million (the principal amount of the receivables was €9 million), liabilities and provisions €10 million, and deferred tax liabilities €5 million. Intangible assets predominantly consist of customer relationships valued at €16 million and brands valued at €10 million with useful lives of up to 15 years. The preliminary goodwill of €11 million comprises non-separable intangible assets, such as employee know-how and expected synergy effects, and is not tax deductible. The purchase price allocation has not yet been completed because the assets are still being measured.

Since the acquisition, the acquired business has contributed €14 million in revenue and a net loss of €1 million to OSRAM. This figure was also influenced by the effects on earnings of the amortization of intangible assets acquired as part of the business combination. If the company had been acquired right at the start of the fiscal year, it would have contributed revenue of around €42 million and net income of approximately €1 million.

Discontinued Operation

As part of the strategic transformation into a high-tech photonics company, the strategy for the Lighting Solutions Business Unit (LS) was revised in fiscal year 2018. Consequently, OSRAM decided to dissolve the LS Business Unit and to dispose of both the luminaire service business in North America—predominantly operated by Sylvania Lighting Service Corp. (SLS), Wilmington, U.S.A.—and the luminaires business, which, in Europe, is predominantly operated by Siteco Beleuchtungstechnik GmbH (Siteco), Traunreut, Germany. These activities comprise virtually all of the business activities of the LS Business Unit, which was previously part of the Lighting Solutions & Systems (LSS) reporting segment.

Reflecting the progress of the negotiations in each case and in accordance with IFRS 5, the assets and liabilities of SLS and of Siteco and the rest of the European luminaires business were recognized as *Assets held for sale* and *Liabilities associated with assets held for sale* in the consolidated statement of financial position and classified as a discontinued operation in the consolidated statement of income and in the consolidated statement of cash flows.

On January 11, 2019, the sale of the business operations of SLS in North America to WESCO Services, LLC, and WESCO Distribution Canada LP, was contractually agreed at a purchase price of USD 28 million (approximately €24 million). The transaction was completed on March 5, 2019.

Gain on Sale of Discontinued Operations

in € million

	Fiscal year	
	2019	2018
Consideration received	24	–
Net assets and liabilities	(25)	–
Reclassification of currency translation differences	(6)	–
Expenses related to the sale of LEDVANCE in fiscal year 2017	–	(10)
Gain (loss) on sale of discontinued operations	(7)	(10)

Net Cash Inflows¹⁾

in € million

	Fiscal year 2019
Consideration received in cash	22
Cash and cash equivalents disposed of	–
Net cash inflows	22

1) Relates to the sale of the luminaire service business in North America.

On June 21, 2019, OSRAM signed an agreement with Stern Stewart Capital Sustainability GmbH, Munich, Germany, concerning the sale of the entire European luminaires business. The transaction was completed on October 1, 2019. As a result, all assets and liabilities of Siteco continued to be classified as *Assets held for sale* and *Liabilities associated with assets held for sale* in accordance with IFRS 5 in the consolidated financial statements as of September 30, 2019.

Assets and Liabilities of Discontinued Operation

in € million

	September 30, 2019
Cash and cash equivalents	17
Trade receivables and other current assets	30
Inventories	30
Non-current assets	12
Assets held for sale	90
Current provisions	37
Current liabilities	40
Pension plans and similar commitments	5
Non-current liabilities	8
Liabilities associated with assets held for sale	90
Net assets and liabilities	0

When Siteco was measured at the lower of the carrying amount and fair value less costs to sell, impairment losses before taxes amounting to €83 million were recognized. These impairment losses are recognized within *Income (loss) from discontinued operations, net of tax*, and reduce the carrying amount of Siteco's intangible assets and property, plant, and equipment. In addition, a provision was recognized for the remaining impairment loss requirement on the basis of the binding agreement that is in place. The impairment losses resulted in a tax benefit of €19 million, which was also recognized in *Income (loss) from discontinued operations, net of tax*. The fair value is based on the agreed sale price and takes into account anticipated adjustments, including the costs to sell still to be incurred.

Results from Discontinued Operations

in € million

	Fiscal year	
	2019	2018
Revenue	236	326
Expenses	(290)	(388)
Income (loss) from operating activities	(54)	(62)
Related income taxes	7	19
Income (loss) from operating activities, net of tax	(47)	(43)
Income (loss) from the measurement to fair value less costs to sell	(83)	(3)
Related income taxes	19	–
Income (loss) from the measurement to fair value less costs to sell	(64)	(3)
Measurement adjustment of obligations from share purchase agreements	(5)	–
Gain (loss) on sale of discontinued operations ¹⁾	(7)	(10)
Related income taxes ¹⁾	0	8
Gain (loss) on sale of discontinued operations, net of tax¹⁾	(7)	(2)
Income (loss) from discontinued operations, net of tax	(123)	(48)

1) Relates to the sale of the luminaire service business in North America in fiscal year 2019. In fiscal year 2018, expenses had been recognized that were directly connected with the sale of LEDVANCE in fiscal year 2017 but had not been incurred until fiscal year 2018.

B.6.4 Disclosures on the Statement of Income

51 Personnel-related Restructuring Expenses

In fiscal years 2019 and 2018, OSRAM undertook measures throughout the Company to improve processes and make structural adjustments in production and in sales, administration, and other non-production functions.

Personnel-related restructuring expenses related to these measures were incurred in the amount of €67 million in the last fiscal year (previous year: €67 million). These expenses arose mainly in Germany and related, in particular, to personnel measures in connection with a new voluntary redundancy program at

OSRAM Opto Semiconductors GmbH and OSRAM OLED GmbH. Further expenses arose from personnel measures at OSRAM GmbH, including pre-retirement part-time employment agreements; to a lesser extent, they arose from personnel measures relating primarily to specific individuals in countries other than Germany.

At some locations, the measures originally planned will not be implemented in full, in particular because employee turnover was higher than anticipated and, in some cases, capacity utilization is currently better than expected. The provision for the program was reduced by €11 million.

In fiscal years 2019 and 2018, personnel-related restructuring expenses and income from their reversal primarily affected *Cost of goods sold and services rendered*, *Marketing, selling, and general administrative expenses*, and *Research and development expenses*.

61 Other Operating Income

Other Operating Income

in € million

	Fiscal year	
	2019	2018
Compensatory payments	24	5
Gains on sales and disposals of property, plant, and equipment, and intangibles	1	5
Gains on sales of business activities	–	15
Miscellaneous other income	8	12
Other operating income	33	37

The *Compensatory payments* line item relates to business transferred to OSRAM CONTINENTAL GmbH by Continental.

In fiscal year 2019, *Miscellaneous other income* consisted of, among other things, income of €3 million from services rendered for former subsidiaries (previous year: €6 million) and income of €3 million from government grants (previous year: €3 million).

71 Other Operating Expenses

Other Operating Expenses

in € million

	Fiscal year	
	2019	2018
Impairment losses on goodwill	(210)	–
Adjustment of fair value as a result of contingent consideration for acquisitions	(16)	–
Losses on sales and disposals of property, plant, and equipment, and intangibles	(4)	(4)
Miscellaneous other expenses	(4)	(12)
Other operating expenses	(234)	(16)

The *Impairment losses on goodwill* line item reflects the write-off of the goodwill of the two cash-generating units Digital Systems (within the DI Segment) and OSRAM CONTINENTAL (within the AM Segment). Additional information can be found in [Note 15 | Goodwill and Other Intangible Assets](#).

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The *Adjustment of fair value as a result of contingent consideration for acquisitions* line item contains the change in fair value of €16 million resulting from the earn-out agreement in connection with the acquisition of Fluence Bioengineering, Inc., Austin, Texas, U.S.A., which was completed in fiscal year 2018. The agreed contingent consideration is dependent on the company's revenue and gross margin in the three years subsequent to the transaction. The change in OSRAM's assessment of the defined KPIs essentially changed because business is going well. For information on determining the fair value of contingent consideration for acquisitions, see [Note 28 | Financial Instruments](#).

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8.1 Income (Loss) from Investments Accounted for Using the Equity Method, Net

Income (Loss) from Investments Accounted for Using the Equity Method, Net

in € million

	Fiscal year	
	2019	2018
Share of profit (loss), net	(6)	(4)
Reversals of impairments/impairments, net	(4)	1
Gains (losses) on sales, net	0	–
Income (loss) from investments accounted for using the equity method, net	(10)	(2)

In fiscal year 2019, income (loss) from investments accounted for using the equity method, net, included the impairment loss on equity investments in two German start-ups, which are shown under corporate items in the segment reporting.

OSRAM has an equity investment, which it acquired in fiscal year 2017, in the associate LeddarTech Inc., Quebec, Canada. Unless indicated otherwise, the financial information below relates to 100% of the company:

Financial Information for LeddarTech Inc.

in € million

	Fiscal year	
	2019 ¹⁾	2018 ²⁾
Interest in income (loss)	25.1%	25.1%
Current assets	11	15
Non-current assets	27	25
Current liabilities	18	2
Non-current liabilities	6	6
Net assets (100%)	13	32
Group's share of net assets	3	8
Goodwill	47	46
Carrying amount of interest in the entity	50	55
Revenue	5	3
Loss before income taxes	(16)	(8)
Other comprehensive income	0	(1)
Total comprehensive income	(16)	(9)
Dividends received	–	–

1) The data relating to assets and liabilities indicates their value as of August 31, 2019; the data presented from the statement of income covers the twelve-month period ended August 31, 2019.

2) The data relating to assets and liabilities indicates their value as of August 31, 2018; the data presented from the statement of income covers the twelve-month period ended August 31, 2018.

The Group also has shares in individually immaterial associates and joint ventures. The Group's stake in some of the associates is less than 20% but, because the Group is represented on the investee's managing or supervisory board, it considers its influence to be significant.

Financial Information for Individually Immaterial Joint Ventures and Associates

in € million

	Fiscal year	
	2019	2018
Carrying amount of interests in associates	4	4
Share of net income (loss), net of tax	(2)	(1)
Carrying amount of interests in joint ventures	1	6
Share of net income (loss), net of tax	0	0

91 Income Taxes

Income Taxes

in € million

	Fiscal year	
	2019	2018
Current tax (expense) benefit, net, fiscal year	(47)	(113)
Current tax (expense) benefit, net, prior fiscal years	12	17
Deferred tax (expense) benefit, net, from changes in temporary differences	70	28
Deferred tax (expense) benefit, net, others	(2)	(6)
Income tax (expense) benefit, net	33	(74)

In Germany, current taxes are calculated on distributed and retained profits based on a uniform corporate income tax rate of 15% and a solidarity surcharge of 5.5% thereon. In addition to corporate income tax, trade tax is also levied on profits generated in Germany. Trade tax is calculated using an average tax rate of 14.3%, resulting in an aggregate tax rate for Germany of 30.1% (Group tax rate).

Profit generated by foreign subsidiaries is calculated on the basis of national tax laws, and taxes are paid on that profit at the tax rate applicable in the country in which the subsidiary concerned is based.

Reconciliation to Actual Income Tax Expense

in € million

	Fiscal year	
	2019	2018
Income (loss) before income taxes OSRAM (continuing operations)	(377)	263
Group tax rate	30.1%	30.1%
Expected income tax (expense) benefit, net	113	(79)
Increase/decrease in income taxes resulting from:		
Non-deductible losses and expenses	(57)	(19)
Tax-free income	11	3
Taxes for prior years	12	16
Change in realizability of deferred tax assets and tax credits	(48)	4
Foreign tax rate differential	6	12
Change in tax rates	(1)	(7)
Other, net	(2)	(3)
Actual income tax (expense) benefit, net	33	(74)

Non-deductible losses and expenses: The tax effect includes permanent effects resulting from the impairment of goodwill and the subsequent purchase price adjustment for the acquisition of Fluence Bioengineering, Inc., Austin, Texas, U.S.A.

Change in realizability of deferred tax assets and tax credits: The tax effect essentially reflects the non-recognition/the impairment of deferred tax assets on tax loss carryforwards and temporary differences of €55 million for OSRAM CONTINENTAL GmbH.

Other, net: In fiscal years 2019 and 2018, the tax effect predominantly results from non-deductible withholding taxes on intragroup dividend payments.

In the previous year, the impact of lowering the rate of U.S. corporate income tax from 35% to 21% was shown in the *Foreign tax rate differential and Change in tax rates* line items.

Deferred tax assets and liabilities (gross) are attributable to the following items in the statement of financial position:

Deferred Tax Assets and Liabilities

in € million

	Deferred tax assets		Deferred tax liabilities	
	September 30,		September 30,	
	2019	2018	2019	2018
Financial assets	1	2	0	0
Other intangible assets	94	49	37	35
Property, plant, and equipment	32	19	27	28
Inventories	25	24	0	0
Receivables	4	5	18	12
Pension plans and similar commitments	162	138	8	0
Provisions	27	32	3	3
Liabilities	67	41	2	2
Tax loss and credit carryforwards	81	71	–	–
Other	6	2	11	8
Deferred taxes	499	384	106	88
Netting	(89)	(75)	(89)	(75)
Item in the statement of financial position	410	309	17	13

The increase in deferred tax assets in the line items *Other intangible assets*, *Property, plant, and equipment*, and *Liabilities* was predominantly attributable to intra-group measures that reduced the increase in tax loss carryforwards in Germany.

Deferred tax assets are one of the items that could be affected by a possible takeover of OSRAM

› [Note 37 | Events After the Reporting Period.](#)

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Deferred tax assets and deferred tax liabilities are offset if the Group has an enforceable right to set off current tax assets against current tax liabilities and these relate to income taxes of the same taxable entity that are levied by the same tax authority.

The critical factor in assessing whether deferred tax assets are impaired or not is the extent to which management believes the deferred tax assets can be recovered. The assessment is made taking into account budgeted results from operating activities and possible tax strategies. Based on past experience and expected taxable income, it is generally assumed that the benefits of deferred tax assets can be recovered.

In this context, deferred tax assets of €279 million (previous year: €59 million) have been recognized for entities that generated a loss in the current period or in the prior period.

Tax loss carryforwards amounted to €543 million as of September 30, 2019 (previous year: €390 million). In fiscal year 2019, deferred tax assets of €59 million were recognized in Germany (previous year: €50 million) in respect of tax loss carryforwards. OSRAM assumes that there will be sufficient positive taxable income available from future business activities to recover these deferred tax assets.

No deferred tax assets were recognized for the following items (gross amounts):

Items for which No Deferred Tax Assets have been Recognized

in € million

	September 30,	
	2019	2018
Deductible temporary differences	111	57
Tax credits	72	64
Tax loss carryforwards	284	176

Of the tax loss carryforwards for which no deferred tax assets were recognized as of September 30, 2019, €44 million (previous year: €57 million) are time-limited. These loss carryforwards will begin to expire in 2029.

In a number of countries, companies in the OSRAM Licht Group have several years for which a tax audit has not yet been completed. OSRAM recognizes appropriate provisions for those outstanding assessment periods bearing in mind numerous factors, including interpretations of tax law and past experience.

Income taxes and withholding taxes that could be incurred in connection with profits distributable by subsidiaries are recognized as deferred tax liabilities if these profits are expected to be subject to such taxation or it is not intended to reinvest them for the long term.

As of September 30, 2019, no deferred tax liabilities were recognized for subsidiaries' accumulated earnings of €1,246 million (previous year: €1,078 million) as these profits are to be reinvested for an indefinite period.

The Group's distribution of dividends to shareholders does not have any income tax implications for OSRAM.

Including items recognized in other comprehensive income (loss), income tax (expense) benefit can be broken down as follows:

Income Tax (Expense) Benefit

in € million

	Fiscal year	
	2019	2018
Income tax (expense) benefit, net	33	(74)
(Expense) benefit recognized directly in other comprehensive income (loss)	7	(15)

B.6.5 Disclosures on the Statement of Financial Position (Assets)

101 Trade Receivables

The changes in loss allowances recognized in respect of trade receivables recognized at amortized cost were as follows:

Loss Allowances

in € million

	Fiscal year		Total according to IAS 39
	2019	2018	
	Total (lifetime expected credit losses according to IFRS 9)	therein credit-impaired receivables according to IFRS 9	
Loss allowances as of beginning of fiscal year	(15)	(7)	(13)
Reclassification of discontinued operation	0	0	–
Derecognition of receivables	3	0	1
Change in loss allowances recorded in the income statement in the current period	0	0	(3)
Changes to the group of consolidated companies and other changes	0	0	0
Loss allowances as of fiscal year end	(12)	(6)	(15)

For some of the trade receivables recognized at amortized cost, the loss allowances for the expected credit losses are calculated on the basis of the customers' individual credit ratings, which are then used to determine portfolio-specific default rates. Based on credit ratings provided by external agencies, the customers are grouped in risk categories with low, moderate, and higher credit risk.

Gross Carrying Amount of trade receivables measured based on ratings

in € million

	September 30, 2019
Risk class 1: low risk	316
Risk class 2: moderate risk	150
Risk class 3: higher risk	19
Risk class 4: insolvent	5
Customers without individual rating	10
Total	500

The expected credit losses for trade receivables with a gross carrying amount of €37 million as of September 30, 2019, were predominantly calculated using analysis of historical bad debts and the age structure.

Further information on the calculation of loss allowances including the definition of credit-impaired receivables can be found in [Note 2 | Summary of Significant Accounting Policies](#).

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Trade receivables included receivables with a carrying amount of €34 million as of September 30, 2019, that were measured at fair value through profit or loss. Some of these are receivables from customers that are regularly sold to a factoring company in connection with customers' supply-chain financing programs.

11 I Other Current Financial Assets

Other Current Financial Assets

in € million

	September 30,	
	2019	2018
Debit balances of trade accounts payable	5	11
Derivative financial instruments	5	4
Receivables from employees	2	2
Other	18	28
Other current financial assets	29	45

Among other things, the *Other* line item includes financial receivables not resulting from the sale of goods or services and other financial assets such as finance bills.

Information on derivative financial instruments can be found in [Note 28 | Financial Instruments](#).

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12 I Contract Assets and Contract Liabilities

Contract assets mainly arise as a result of the earlier recognition of revenue for customer-specific products and for particular consignment warehouse agreements where OSRAM is already entitled to payment. Contract assets of €6 million recognized at the start of the fiscal year have been derecognized in full because they have been invoiced. The balance at the end of fiscal year 2019 was €9 million.

Contract liabilities mainly arise as a result of product deliveries where, because of the contractual arrangements (particularly the delivery terms), control does not pass to the customer until after invoicing. Revenue is recognized when control passes to the customer. In fiscal year 2019, revenue of €7 million was recognized that had been shown under contract liabilities at the start of the fiscal year. As of September 30, 2019, the contract liabilities amounted to €15 million. This figure included advance payments received of €5 million.

13 | Inventories

Inventories

in € million

	September 30,	
	2019	2018
Raw materials and supplies	210	216
Work in progress	177	203
Finished goods and merchandise	303	325
Advances to suppliers	2	6
Advance payments received	–	(7)
Inventories	692	743

For further information, see section [A.2.5.1 Statement of Financial Position Analysis](#).

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Taking account of the classification of inventories as *Assets held for sale* in accordance with IFRS 5, cumulative allowances fell by a total of €18 million to €123 million in fiscal year 2019 (previous year: rise of €19 million to €141 million) due to a decline in technical risks and other factors.

The cost of inventories sold during the fiscal year represents the major part of the cost of goods sold and services rendered.

14 | Other Current Assets

Other Current Assets

in € million

	September 30,	
	2019	2018
Miscellaneous tax receivables	44	57
Prepaid expenses	24	24
Receivables from government grants	10	36
Other	35	34
Other current assets	113	151

For information on government grants, see [Note 16 | Property, Plant, and Equipment](#).

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As of September 30, 2019, *Prepaid expenses* included the current portion of the transaction costs related to the revolving credit facility amounting to €2 million (previous year: €2 million) and, in particular, advance payments for IT services.

The *Other* line item mainly consists of advances paid as well as payments to customers deferred over the term of the contract in respect of future sales.

15 | Goodwill and Other Intangible Assets

Goodwill and Other Intangible Assets¹⁾

in € million

	Gross carrying amount as of October 1, 2018	Translation differences	Additions through business combinations	Additions	Retirements	Reclassification according to IFRS 5	Gross carrying amount as of September 30, 2019	Accumulated amortization and impairment	Net book value as of September 30, 2019	Amortization and impairment during fiscal 2019
Goodwill	569	20	11	-	-	(101)	498	(312)	186	(210)
Capitalized software development costs	81	0	-	0	(2)	(1)	78	(75)	3	(1)
Other capitalized development costs	81	1	1	7	(2)	(25)	63	(43)	20	(7)
Patents, licenses, and other rights	662	21	26	6	(7)	(53)	655	(405)	250	(47)
Other intangible assets	824	21	27	13	(11)	(79)	796	(523)	273	(54)

	Gross carrying amount as of October 1, 2017	Translation differences	Additions through business combinations	Additions	Retirements	Reclassification according to IFRS 5	Gross carrying amount as of September 30, 2018	Accumulated amortization and impairment	Net book value as of September 30, 2018	Amortization and impairment during fiscal 2018
Goodwill	358	5	221	-	-	(15)	569	(200)	369	-
Capitalized software development costs	82	-	3	0	(1)	(3)	81	(78)	3	(1)
Other capitalized development costs	77	-	-	7	(3)	-	81	(56)	25	(6)
Patents, licenses, and other rights	490	6	169	12	(6)	(9)	662	(394)	268	(25)
Other intangible assets	649	6	172	19	(10)	(12)	824	(528)	296	(32)

1) Excluding goodwill and other intangible assets classified as Assets held for sale in accordance with IFRS 5.

The additions resulting from business combinations predominantly relate to the purchase of the shares in Ring Automotive, Leeds, Great Britain, in the Automotive (AM) Operating Segment. *Reclassification in Accordance with IFRS 5* included intangible assets for Siteco that were reclassified under IFRS 5 [› Note 4 | Acquisitions, Disposals, and Discontinued Operations](#).

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There were no significant obligations to purchase other intangible assets as of September 30, 2019, or 2018.

The carrying amounts for goodwill were reallocated on the basis of relative fair value according to the reorganized reporting structure and are allocated to the cash-generating units as follows:

Goodwill

in € million

	September 30,	
	2019	2018
Opto Semiconductors		
Opto Semiconductors	61	57
Automotive		
Automotive excluding OSRAM CONTINENTAL	48	37
OSRAM CONTINENTAL	–	165
Digital		
Entertainment & Industry	49	46
Digital Lumens	28	26
Digital Systems	–	38
Goodwill	186	369

The impairment tests in fiscal year 2019 and fiscal year 2018 were based on the business planning that was current at the time the tests were carried out. The recoverable amount of the cash-generating units was determined on the basis of their fair value less costs of disposal (hierarchy level 3). The key assumptions used when impairment testing cash-generating units to which goodwill has been allocated are the expected unit sales and average EBITDA margins in the detailed planning phase that are used as the basis for the business planning, the terminal value growth rates, and the discount rates.

On March 28, 2019, the Managing Board of OSRAM Licht AG decided to adjust the forecast for fiscal year 2019 (continuing operations). One of the reasons for this was the ongoing weakness of the automotive, general lighting, and mobile device markets. For details, see [A.2.1 Overall Assessment by the Managing Board of the Current Economic Situation](#).

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As it is possible that the weakness of the markets will continue to have an impact beyond the end of the fiscal year, OSRAM conducted an interim impairment test of goodwill as of March 31, 2019.

The impairment test as of March 31, 2019, was based on multi-year planning derived from the updated forecast for fiscal year 2019. The parameters used as of September 30, 2018, for the long-term growth rate (2.4%) and discount rates (after tax) between 7.9% and 8.5% remained unchanged.

The test as of March 31, 2019, which was based on extended detailed planning, revealed an impairment loss requirement of €39 million for the Digital Systems cash-generating unit within the DI Segment, which led to this unit's goodwill being written off. For the detailed planning, the period was extended from five years (as usually used by OSRAM) to eight years in order to fully reflect expected structural changes in the market and the necessary transformation activities. All other impairment tests carried out confirmed that none of the other goodwill was impaired as of March 31, 2019.

In the fourth quarter of fiscal year 2019, the annual impairment test was carried out on the basis of the current business planning. A long-term growth rate of 2.4% (previous year: 2.4%) and the following discount rates (after tax) were assumed:

Discount rates (after tax)

in %

	September 30, 2019
Opto Semiconductors	
Opto Semiconductors	8.1%
Automotive	
Automotive excluding OSRAM CONTINENTAL	7.7%
OSRAM CONTINENTAL	7.4%
Digital	
Entertainment & Industry	8.5%
Digital Lumens	7.6%
Digital Systems	7.6%

The discount rates had ranged from 7.9% to 8.5% in the previous year.

The impairment tests carried out confirmed that none of the goodwill was impaired, except for that of the OSRAM CONTINENTAL cash-generating unit within the Automotive Segment. This impairment was attributable to reduced profitability resulting from factors such as high start-up costs (e.g., for research and development) and slower growth of revenue from intelligent LED systems due, among other reasons, to the weakening of the automotive market. Business planning continues to be affected by uncertainties with regard to estimates of future purchase prices. For the detailed planning, the period was extended from five years (as usually used by OSRAM) to eight years, as this is a more suitable period for fully reflecting the company's business performance once it is fully up and running. This business is likely to take longer to reach a stable level because of the lengthy periods needed to develop new technologies inhouse. As a result, OSRAM CONTINENTAL's goodwill of €171 million was written off as of September 30, 2019. If the current prediction for future business performance does not materialize, there is a risk that non-current assets will be written down.

In the Digital Lumens cash-generating unit within the DI Segment, even a small increase in the discount rates (after tax) together with a fall in the EBITDA margin of 1.5 percentage points would result in impairment of its goodwill. The business planning assumes that the growth strategy for industrial IoT software applications will be implemented successfully. At present, the recoverable amount only exceeds the carrying amount by just over €10 million. For all other cash-generating units, the recoverable amount exceeds the carrying amount by an amount that is at least in the mid-double-digit millions of euros.

In addition to the write-off of goodwill, a further impairment loss of €6 million on patents, licenses, and similar rights had to be recognized for the Digital Systems cash-generating unit within the Digital Segment in fiscal year 2019.

16 | Property, Plant, and Equipment

Property, Plant, and Equipment¹⁾

in € million

	Gross carrying amount as of October 1, 2018	Translation differences	Additions through business combinations	Additions	Reclassifications	Retirement	Reclassification according to IFRS 5	Gross carrying amount as of September 30, 2019	Accumulated amortization and impairment	Net book value as of September 30, 2019	Amortization and impairment during fiscal 2019
Land and buildings	549	12	0	12	90	(4)	(1)	658	(271)	387	(26)
Technical machinery and equipment	2,530	57	0	34	205	(92)	(47)	2,686	(1,817)	870	(176)
Furniture and office equipment	621	11	3	15	42	(25)	(69)	597	(466)	131	(55)
Advances to suppliers and construction in progress	364	4	0	78	(337)	(2)	(2)	106	(1)	105	0
Property, plant, and equipment	4,064	84	3	139	–	(123)	(119)	4,047	(2,555)	1,493	(257)

	Gross carrying amount as of October 1, 2017	Translation differences	Additions through business combinations	Additions	Reclassifications	Retirement	Reclassification according to IFRS 5	Gross carrying amount as of September 30, 2018	Accumulated amortization and impairment	Net book value as of September 30, 2018	Amortization and impairment during fiscal 2018
Land and buildings	522	4	0	15	13	(5)	0	549	(238)	312	(21)
Technical machinery and equipment	2,270	19	9	98	198	(64)	0	2,530	(1,727)	803	(159)
Furniture and office equipment	567	3	7	31	36	(23)	0	621	(476)	144	(53)
Advances to suppliers and construction in progress	308	8	0	297	(247)	(2)	–	364	(1)	363	0
Property, plant, and equipment	3,668	34	17	440	–	(94)	0	4,064	(2,442)	1,621	(233)

1) Excluding property, plant, and equipment classified as Assets held for sale in accordance with IFRS 5.

As of September 30, 2019, contractual obligations to purchase property, plant, and equipment amounted to €40 million (previous year: €112 million).

Government grants received in fiscal year 2019 for the purchase or production of property, plant, and equipment amounted to €17 million (previous year: €38 million) and were offset against cost. Further government grants awarded, in particular for LED research projects, amounted to €10 million in fiscal year 2019 (previous year: €14 million). The latter predominantly related to incurred costs and were recognized as a reduction in expenses. Real estate required for production was also made available to OSRAM by public authorities free of charge in fiscal years 2019 and 2018.

In fiscal year 2019, impairment losses of €5 million were recognized on property, plant, and equipment that will no longer be needed for production in the future.

17 I Other Assets

Other Assets

in € million

	September 30,	
	2019	2018
Prepaid expenses	17	16
Overfunding of pension plans	16	21
Deferred compensation assets	9	9
Chinese land use rights	6	6
Other	22	13
Other assets	70	65

As of September 30, 2019, *Prepaid expenses* included, among other items, the non-current portion of the transaction costs related to the revolving credit facility amounting to €3 million (previous year: €4 million). This line item also includes prepaid rent, in particular in connection with long-term leases in Malaysia.

The *Overfunding of pension plans* line item predominantly results from pension plans in the U.S.A. in an amount of €9 million (previous year: €14 million) and in Canada in an amount of €5 million (previous year: €4 million).

The *Other* line item mainly consists of advances paid as well as payments to customers deferred over the term of the contract in respect of future sales. The latter will be recognized as a deduction from revenue going forward.

B.6.6 Disclosures on the Statement of Financial Position (Liabilities and Equity)

18 I Other Current Financial Liabilities

Other Current Financial Liabilities

in € million

	September 30,	
	2019	2018
Refund liabilities to customers	55	–
Derivative financial instruments	23	15
Credit balances on trade accounts receivable	5	4
Other	31	21
Other current financial liabilities	113	40

Refund liabilities to customers predominantly result from rebate and bonus agreements. The *Other* line item includes contingent consideration obligations in the context of acquisitions amounting to €9 million. A non-current contingent consideration obligation of €27 million is included in the *Other* financial liabilities line item (previous year: €16 million).

Information on *Derivative financial instruments* can be found in [Note 28 I Financial Instruments](#).

19 | Other Current Liabilities

Other Current Liabilities

in € million

	September 30,	
	2019	2018
Payroll obligations and social security taxes	129	113
Employee-related accruals	98	118
Liabilities from precious metal lending transactions	47	58
Other taxes	17	25
Bonus obligations	17	19
Other	39	40
Other current liabilities	347	373

Employee-related accruals primarily include vacation pay, overtime, severance payment obligations in connection with personnel reduction or early retirement plans, and service anniversary awards. The personnel-related restructuring measures are mainly attributable to the ongoing projects throughout the Company aimed at improving processes and making structural adjustments. See also [Note 5 | Personnel-related Restructuring Expenses](#).

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OSRAM enters into precious metal lending transactions so that it can use the precious metals in the semiconductor manufacturing process. The precious metals are accounted for as raw materials and supplies within inventories.

20 | Debt

Composition of Debt

in € million

	September 30,	
	2019	2018
Short-term (within 1 year)		
Loan from the European Investment Bank	32	32
Other loans from banks	465	184
Other debt	42	17
Short-term debt and current maturities of long-term debt	539	233
Long-term (over 1 year)		
Loan from the European Investment Bank	120	152
Long-term debt	120	152
Debt	659	385

Change in Debt

in € million

	Fiscal year	
	2019	2018
Debt as of beginning of fiscal year	385	200
Proceeds from issuance of long-term debt	–	–
Repayment of long-term debt	(32)	(8)
Net cash inflow/outflow from changes in short-term debt	306	195
Debt as of fiscal year end	659	385

The loan from the European Investment Bank comprises a fixed-rate tranche of €126 million (previous year: €150 million) and a variable-rate tranche of €26 million (previous year: €34 million). The year-on-year change was the result of scheduled repayments. The interest rate for the fixed-rate tranche is 0.711% p.a. The interest rate for the variable-rate tranche is based on EURIBOR plus a credit margin and stood at 0.127% p.a. as of September 30, 2019 (previous year: 0.221% p.a.). The tranches of the loan are scheduled to be repaid in installments by the maturity date at the end of 2024. At the end of fiscal year 2019, the financial covenants set out in the loan agreement were amended. These covenants reflect normal business practice and specify that the ratio of net debt to EBITDA may not exceed a defined level. This ratio, which was complied with in full both until the amendment of the agreement and throughout the remainder of fiscal year 2019, was raised from 2.5:1 to 3.0:1 as a result of the agreement being amended. In view of first-time adoption of IFRS 16 Leases as of October 1, 2019, the ratio has been raised to 3.5:1 in fiscal year 2020 in accordance with the loan agreement; see also [▶ Note 2 | Summary of Significant Accounting Policies](#).

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In addition, OSRAM has access to a variable-rate revolving credit facility of €950 million (previous year: €950 million). Until February 2022, a sum of up to €886 million can be drawn down under the credit facility. The balance of €64 million is available until February 2020. As of September 30, 2019, €460 million was drawn down under the credit facility (previous year: €179 million). The credit facility can also be drawn down in U.S. dollars and, subject to the approval of the banks, in other currencies. The financial covenants set out in the syndicated loan agreement were amended with effect from June 12, 2019. These covenants reflect normal business practice and specify that the ratio of net debt to EBITDA may not exceed a defined level. This ratio, which was complied with in full both until the amendment of the agreement and throughout the remainder of fiscal year 2019, was raised from 2.5:1 to 3.0:1 as a result of the agreement being amended. In view of first-time adoption of IFRS 16 Leases as of October 1, 2019, the ratio has been raised to 3.5:1 in fiscal year 2020 in accordance with the loan agreement; see also [▶ Note 2 | Summary of Significant Accounting Policies](#).

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Other than the drawdown of €460 million under the revolving credit facility and the short-term portion of the loan from the European Investment Bank in an amount of €32 million (previous year: €32 million), the short-term loans from banks result from drawdowns on short-term credit lines, especially by OSRAM companies in countries that are not able to take part in Group financing because of national restrictions on capital transfers. The *Other debt* line item relates to loans from the non-controlling investor Continental to OSRAM CONTINENTAL companies.

21 | Pension Plans and Similar Commitments

In the reporting period, OSRAM provided almost all of the Company's employees in Germany and many of the Company's employees outside Germany with defined benefit and defined contribution pension plans based on contractual arrangements and/or statutory requirements. OSRAM regularly reviews the design of its pension plans, which historically have been predominantly based on defined benefit obligations. The majority of OSRAM's pension obligations are funded with assets in segregated entities.

Defined Benefit Plans

OSRAM's principal pension plans and similar commitments relate to Germany and the U.S.A.

Germany

In Germany, OSRAM provides pension benefits predominantly through the Beitragsorientierte OSRAM Altersversorgung ('BOA') defined benefit plan launched in fiscal year 2004, legacy defined benefit plans, and deferred compensation plans. The BOA is a defined benefit pension plan in which the benefits are predominantly based on contributions made by the Company and the returns earned on such contributions, subject to a minimum return guaranteed by the Company. The obligations under this plan are still affected by longevity, inflation adjustments and remuneration increases, but to a much lesser extent than in the case of the legacy defined benefit plans.

No further employee entitlements can be added to the majority of the legacy defined benefit plans. Nevertheless, these frozen plans still expose the Company to financial risks and demographic risks such as investment risk, interest rate risk, and longevity risk.

OSRAM entered into a trust agreement with the Deutsche Treuinvest Stiftung, Frankfurt/Main, Germany, in November 2011 for all funded pension plans. The trustee administers the plan assets and is responsible for ensuring they are invested in line with the trust agreement with the Company. A deferred compensation plan is also offered to employees.

U.S.A.

The majority of the employees at OSRAM SYLVANIA INC., Wilmington, U.S.A., who joined the company up to December 31, 2006, are members of two closed defined benefit pension plans. The benefits for most of the employees under these plans are largely linked to final salary on retirement, although the benefits for a small group of employees are based on fixed amounts. All these defined benefit plans expose the company to financial and demographic risks such as interest rate risk, risk from salary and wage increases, investment risk, and longevity risk. Benefits for salaried participants are frozen and therefore a remuneration increase risk with regard to these employees is eliminated.

The plans are subject to the applicable legal and regulatory framework, which is determined by the U.S. Employee Retirement Income Security Act ('ERISA'). Based on this legislation, a funding valuation is determined yearly to ensure that the minimum funding level for funded defined benefit plans is achieved. The funding level must be at least 80% to avoid benefit restrictions. The evaluation of the funding level is used as a basis for determining the statutory contributions to the plan assets. As the sponsoring employer, OSRAM SYLVANIA Inc. has set up an investment committee comprising members of the senior management of OSRAM SYLVANIA Inc. to make investment decisions.

The company provides other post-employment benefits in the form of two closed medical benefit plans (including a life insurance component). For one of these plans, the amount of the obligation depends on the expected cost trend, while the benefits in the other plan are based on fixed amounts.

Defined Contribution Plans and Government Plans

The defined contribution plans are organized such that the Company pays contributions to public or private entities based on statutory or contractual provisions or on a voluntary basis without assuming any obligation to provide further benefits to employees. In fiscal year 2019, contributions to defined contribution plans amounted to €12 million (previous year: €12 million), and to government plans €95 million (previous year: €102 million). In both cases the contributions are recognized in profit or loss.

Actuarial Assumptions

The amount of the obligation arising from defined benefit plans is generally determined as of the end of the fiscal year on the basis of reports prepared by external, independent actuaries. The actuarial measurement of the defined benefit obligation (DBO) is based on demographic and financial assumptions. Significant assumptions include mortality rates, pension trends, and trends in healthcare costs. Here, the Company makes its best estimate bearing in mind the economic environment in the country in question and existing expectations.

Another significant assumption is the discount rate. The discount rates used are determined by reference to market yields on high-quality corporate bonds at the end of the reporting period. In countries where there is no deep market in such corporate bonds, market yields on government bonds are used.

Significant financial and demographic assumptions were as follows in the reporting period:

Key Assumptions for the Calculations of the DBO

	September 30,	
	2019	2018
Discount rate	1.51%	2.54%
Germany	0.68%	1.76%
U.S.A.	3.20%	4.26%
Mortality tables		
Germany	Richttafeln Heubeck 2018G	Richttafeln Heubeck 2005G
U.S.A.	RP2014 Generational Projected from 2006 with MP2018	RP2014 Generational Projected from 2006 with MP2017

New mortality tables were published in Germany in October 2018. It was not possible to complete the necessary validation and implementation of the finalized applicable versions of these mortality tables (Heubeck Richttafeln 2018G) during the process of preparing the 2018 consolidated financial statements, so they were applied for the first time in the 2019 consolidated financial statements. Application of the new mortality tables caused the DBO to increase by €6 million; the related effect of remeasuring defined benefit plans was recognized in other comprehensive income.

According to initial estimates, the annual modification to the U.S. mortality tables, which were published in late October 2019, would have resulted in an insignificantly lower DBO.

Based on the persistently low rate of inflation in Germany, a pension progression rate of 1.60% (previous year: 1.75%) was defined for the measurement of defined benefit plans in Germany as of September 30, 2019. The expected inflation rate is factored into the pension progression rate and therefore also has an impact on the DBO. The discount rate is weighted using the amount of the obligation at fiscal year-end and including all pension plans and similar commitments.

The measurement assumptions determined at the beginning of the reporting period are used to determine the current service cost as well as the interest income and interest expenses in the fiscal year. Therefore, the interest income and interest expenses for the fiscal year are based on the discount rate as of the beginning of the current fiscal year multiplied by the fair value of the plan assets and the defined benefit obligation as of the start of the fiscal year, respectively. The fair value and thus the interest income on plan assets, the defined benefit obligation, and the interest expenses are adjusted for significant events in the reporting period, such as additional funding contributions, plan amendments, or business combinations and disposals. Expense components reported for the previous year are adjusted for those portions relating to the discontinued operation.

Sensitivity Analysis

The following sensitivity analysis shows the effects of a change in significant actuarial assumptions on the amount of the defined benefit obligation as of September 30, 2019.

Sensitivity analysis

in € million

	Effect on DBO as of September 30, 2019, due to	
	50-basis-points increase	50-basis-points decrease
Discount rate	(83)	99
Rate of pension progression	44	(40)

A 10% decrease in mortality probability for each age would result in an increase in the DBO of €36 million.

Increases and decreases in the discount rate and the rate of pension progression do not have a symmetrical effect when measuring the DBO, primarily due to the compound interest effect arising when the net present value of the future benefits is determined. This includes the fact that a decrease or increase by more or less than 50 basis points as presented in the table above would not result in a completely linear effect on the DBO. Furthermore, if more than one of the assumptions are changed simultaneously, the cumulative impact is not necessarily the same as the total of the individual changes.

The weighted average duration of the DBO for defined benefit plans and similar commitments was 14.6 years (previous year: 13.2 years).

Funding Policy and Investment Strategy

The policy for funding defined benefit plans is an integral part of OSRAM's financial management, and also includes an ongoing analysis of the structure of its defined benefit liabilities. The investment strategy for plan assets is derived from the structure and characteristics of the liabilities and is based on asset-liability modeling studies at the individual plan level.

We intend to reduce the volatility of the proportion of commitments covered by plan assets through liability-driven investing (LDI).

Risk budgets are used as the basis for determining our investment strategy at the individual plan level, i.e., for the strategic asset allocation of key plan assets and the level of appropriate limits for interest rate and credit spread risk hedging.

The investment strategy, the hedging rules, and changes in the proportion of commitments covered by plan assets are regularly reviewed with the participation of external experts in the international asset management industry to permit an integral view of plan assets and defined benefit obligations. We review the asset allocation of each plan in light of the duration of the related defined benefit obligation and analyze trends and events that may affect asset values in order to initiate appropriate measures at a very early stage.

Our asset manager selection process is based on our quantitative and qualitative analysis. We continuously monitor the performance of each asset manager mandate and the risk it entails, both individually and in a more general portfolio context.

Our investment strategy to reduce risk, as part of an integrated risk management approach for assets and liabilities, is mainly based on investments in physical securities. Additionally, derivatives are used either to reduce the fluctuations in the value of plan assets or to reduce volatility in the proportion of commitments covered by plan assets. OTC derivatives are collateralized on a daily basis to mitigate counterparty risk.

Notes on the Items Presented in the Consolidated Financial Statements

The consolidated statement of financial position contains the following items related to pension plans and similar commitments as of September 30, 2019, and 2018. The funded status of these plans and the reconciliation of the funded status to the carrying amounts contained in the relevant statement of financial position items were as follows:

Commitments by Type and Financial Position

in € million

	September 30,		
	OSRAM (continuing operations)	OSRAM Licht Group (total)	OSRAM Licht Group (total)
	2019	2019	2018
DBO for funded plans	(1,117)	(1,136)	(962)
Fair value of plan assets	1,098	1,116	946
Funded status of funded plans (funding ratio 98%; previous year 98%)	(19)	(20)	(16)
DBO for unfunded plans	(132)	(136)	(125)
Funded status	(151)	(156)	(141)
Pension plans	(77)	(80)	(68)
Similar commitments	(74)	(76)	(73)
Reconciliation to the financial position			
Liabilities for pension plans and similar commitments	167	172	162
Other assets	16	16	21

Before the end of fiscal year 2018, commitments in the U.S.A. for current pensions of €683 million from the funded pension plan were transferred to an insurer in return for the surrender of plan assets of €678 million. Based on a standardized Group-wide measurement, the resulting gain was €5 million. Even after this transfer, the remainder of the pension plan continues to report a surplus and, at €9 million (previous year: €14 million), represented the largest share of the overfunded plans as of September 30, 2019.

The pension plan surplus in Canada remained more or less stable at €5 million (previous year: €4 million).

Unfunded commitments predominantly relate to a pension plan and similar commitments in the U.S.A. as well as to other similar commitments in a number of countries.

The following table shows the expenses recognized in connection with the pension plans and similar commitments presented in the consolidated statement of income and consolidated statement of comprehensive income:

Defined Benefit Cost

in € million

	Fiscal year	
	2019	2018
Current service cost	24	25
Past service cost/(income)	(2)	1
Settlement loss/(gain)	–	(5)
Net interest income	(1)	(1)
Net interest cost	5	5
Liability administration cost	0	1
Defined benefit cost recognized in consolidated statement of income	27	25
<i>Germany</i>	20	22
<i>U.S.A.</i>	5	1
<i>Other countries</i>	2	3
Return on plan assets excluding amounts included in net interest on the net defined benefit liability (asset)	(142)	45
Actuarial (gains) and losses arising from changes in demographic assumptions	6	(8)
Actuarial (gains) and losses arising from changes in financial assumptions	150	(33)
Actuarial (gains) and losses arising from experience adjustments	4	(1)
Remeasurements of the net defined benefit liability (asset) recognized in consolidated statement of other comprehensive income	17	(2)
<i>Germany</i>	4	(6)
<i>U.S.A.</i>	10	1
<i>Other countries</i>	4	3
Defined benefit cost	44	23

The current service cost, past service cost, settlement gains and losses, and liability administration cost are allocated to the functional costs (*Cost of goods sold and services rendered, Research and development expenses, Marketing, selling, and general administrative expenses* line items) in line with the functional area of the respective profit and cost centers.

Reconciliation for Defined Benefit Obligation (DBO) and Plan Assets

A detailed reconciliation for the changes in the defined benefit obligation for fiscal years 2019 and 2018 is provided in the following table:

Change in DBO

in € million

	Fiscal year		
	OSRAM (continuing operations)	OSRAM Licht Group (total)	OSRAM Licht Group (total)
	2019	2019	2018
DBO at the beginning of fiscal year	1,063	1,087	1,810
Current service cost	24	24	25
Past service cost/(income)	(2)	(2)	1
Settlements	–	–	(683)
Interest cost	27	27	52
Remeasurements:			
Actuarial (gains) and losses arising from changes in demographic assumptions	6	6	(8)
Actuarial (gains) and losses arising from changes in financial assumptions	150	150	(33)
Actuarial (gains) and losses arising from experience adjustments	4	6	(1)
Plan participants' contributions	5	5	6
Benefits paid	(55)	(56)	(98)
Transfer-in from the discontinued operation	3	–	–
Acquisitions	–	–	2
Divestments	0	0	–
Foreign currency translation effects	23	24	15
DBO at the end of fiscal year	1,249	1,272	1,087
<i>Germany</i>	<i>803</i>	<i>820</i>	<i>706</i>
<i>U.S.A.</i>	<i>359</i>	<i>359</i>	<i>297</i>
<i>Other countries</i>	<i>87</i>	<i>92</i>	<i>83</i>
Active employees	429	452	406
Former employees with vested benefits	305	305	234
Retirees and surviving dependents	515	515	447

A detailed reconciliation of the changes in the fair value of plan assets for fiscal years 2019 and 2018 is provided in the following table:

Change in Plan Assets

in € million

	Fiscal year		
	OSRAM (continuing operations)	OSRAM Licht Group (total)	OSRAM Licht Group (total)
	2019	2019	2018
Fair value of plan assets at beginning of fiscal year	928	946	1,675
Interest income	22	23	48
Remeasurement:			
Return on plan assets excluding amounts included in net interest on the net defined benefit liability (asset)	142	145	(45)
Employer contributions	15	15	17
Plan participants' contributions	1	1	2
Benefits paid	(31)	(31)	(86)
Settlements	–	–	(678)
Transfers	2	0	–
Acquisitions	–	–	1
Liability administration cost	(1)	(1)	(1)
Foreign currency translation effects	18	18	13
Fair value of plan assets at end of fiscal year	1,098	1,116	946
<i>Germany</i>	<i>765</i>	<i>780</i>	<i>662</i>
<i>U.S.A.</i>	<i>265</i>	<i>265</i>	<i>218</i>
<i>Other countries</i>	<i>68</i>	<i>71</i>	<i>66</i>

The employer contributions to the funded pension plans amounted to €15 million in fiscal year 2019. Of this amount, €14 million was attributable to the German pension plans and €1 million to the pension plans in Canada.

Composition of Plan Assets

in € million

	September 30,	
	2019	2018
Equities	153	136
Global equities (ex emerging markets)	139	122
Emerging markets equities	15	14
Fixed income	844	756
Government bonds	285	214
Corporate bonds	559	542
Mixed funds	35	37
Commodities	5	2
Cash and other assets	5	6
Derivatives	–	1
Plan assets that do have a quoted market price in an active market	1,043	937
Cash and other assets	47	27
Derivatives	9	(18)
Plan assets that do not have a quoted market price in an active market	55	9
Fair value of plan assets at end of fiscal year	1,098	946

The strategic asset allocation remained essentially unchanged, even after the significant disposal of plan assets in settlement of pension commitments under the U.S. pension plan in fiscal year 2018.

22.1 Provisions

Provisions

in € million

	Warranties	Order-related losses and risks	Other legal proceedings	Others	Total
As of the beginning of fiscal year	39	12	7	42	100
Reclassification discontinued operation ¹⁾	(4)	0	0	(2)	(5)
Additions ²⁾	6	6	17	16	45
Usage ²⁾	(5)	(11)	(5)	(3)	(24)
Reversals ²⁾	(4)	0	(7)	(4)	(16)
Translation differences	1	–	0	1	2
Changes of the group of consolidated companies and other changes	0	0	0	0	0
As of the end of fiscal year	34	6	12	50	102
therein non-current	8	–	0	25	33

1) The reclassification for the discontinued operation relates to the balance as of January 1, 2019.

2) The reported additions, usage, and reversals relate to the entire OSRAM Licht Group for the period October 1, 2018, to December 31, 2018, and to the continuing operations for the period January 1, 2019, to September 30, 2019.

Warranties relate to warranty obligations for products sold and services rendered.

OSRAM recognizes Provisions for *order-related losses and risks* for anticipated losses and risks on uncompleted construction and sales contracts.

The *Other legal proceedings* category includes provisions for certain legal disputes and legal costs. This category encompasses provisions for product liability proceedings, patent and trademark litigation, and other proceedings. For further information, see [› Note 25 | Legal Proceedings](#).

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The *Others* item includes provisions amounting to €15 million (previous year: €9 million) for purchase agreements that are disadvantageous due to minimum purchase volumes not being reached that had been contractually agreed with suppliers, obligations arising from the sale of LEDVANCE amounting to €12 million (previous year: €12 million), and obligations arising from customer complaints amounting to €7 million (previous year: €12 million). The other provisions included in the *Others* item predominantly consisted of uncertain tax and tariff risks, leasehold improvement reinstatement obligations, and environmental risks.

23 | Other Liabilities

Other Liabilities

in € million

	September 30,	
	2019	2018
Employee-related liabilities	36	57
Deferred compensation plan	33	31
Other	33	33
Other liabilities	102	121

Employee-related liabilities contain, in particular, pre-retirement part-time employment agreement obligations and termination benefit obligations.

The *Other* line item contains, among other things, deferred payments received under leases and other contracts.

24 | Other Financial Commitments and Contingent Liabilities

As of September 30, 2019, there were no contingent liabilities in connection with significant legal proceedings. In the case of product liability claims, OSRAM is in principle covered by insurance, the nature and scope of which is set out in the terms and conditions of the respective insurance policies. The insured amount and extent of cover are adequate for the risk and are customary for the industry. However, whether and to what extent OSRAM is covered by insurance in individual cases depends on the circumstances of the case concerned. In addition, there is not sufficient clarity with regard to certain legal proceedings to determine the possible obligation and the amount of any such obligation. Information on litigation can be found in [› Note 25 | Legal Proceedings](#).

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Further undiscounted contingent liabilities mainly comprised guarantees entailing maximum future payments of €35 million (previous year: €33 million) for which OSRAM was potentially liable as of the reporting date. The guarantees mainly relate to the protection of benefits for LEDVANCE employees under pre-retirement part-time employment arrangements (where such benefits arise from restructuring programs at OSRAM) and a contractual obligation for guarantees from the sale of shares in a joint venture in the U.S.A. in fiscal year 2014.

Moreover, capital commitments to investees for funding in the mid- to upper-single-digit millions of euros have not yet been utilized.

Additional contingent liabilities have arisen from contractual obligations associated with the sale of LEDVANCE. The liability amount is limited to the sale price.

In addition, there is not sufficient clarity to determine the possible obligation and the amount of any such obligation with regard to the non-fulfillment of country-specific tax-law-related documentation requirements and duties of disclosure.

OSRAM was subject to the following future payment obligations under non-cancelable operating leases as of September 30, 2019, and 2018:

Future Payment Obligations under Non-cancelable Operating Leases

in € million

	September 30,	
	2019	2018
Within one year	52	50
Between one and five years	120	134
After five years	62	59
Future payment obligations under non-cancelable operating leases	234	243

Most of the future payment obligations under non-cancelable operating leases are in connection with buildings leased on a long-term basis. These are partly offset by future rental income under subleases of €11 million (previous year: €12 million) and contingent future rental income of €5 million (previous year: €5 million). Total operating lease expenses in respect of third parties amounted to €64 million in fiscal year 2019 (previous year: €63 million). Of this amount, €2 million was attributable to contingent lease payments in fiscal year 2019 (previous year: €2 million).

25.1 Legal Proceedings

EBV Elektronik SAS v. OSRAM Opto Semiconductors GmbH

On January 20, 2016, OSRAM Opto Semiconductors GmbH (OS) was joined in the case pending before the commercial court in Nanterre, France, between EBV Elektronik SAS (EBV) and Société Provence D'Electronique et Cabelage (SPEC) by means of an action in warranty. SPEC is suing EBV for damages relating to the supply of allegedly faulty OS LEDs in SPEC passenger information boards. EBV brought OS into the action in order to seek recourse from OS as the supplier of the allegedly defective products. Following the clarification of preliminary procedural issues, the commercial court in Nanterre was declared competent as the court of last instance. The written procedure is currently taking place, and the parties are exchanging statements of case. The hearing scheduled for October 15, 2019, was postponed at SPEC's request. A new date has not yet been set.

Bench Walk Lighting LLC

On November 2, 2018, Bench Walk Lighting LLC brought a complaint against the OSRAM companies OSRAM Licht AG, OSRAM GmbH, OSRAM SYLVANIA, Inc., OSRAM Opto Semiconductors GmbH & Co. (sic.), and OSRAM Opto Semiconductors, Inc. before the United States District Court for the District of Delaware. In the complaint, Bench Walk Lighting LLC claimed infringement of 14 U.S. LED patents and demanded, among other things, a prohibitory injunction and compensation for damages. The parties reached a settlement agreement in October 2019. The legal dispute has thus ended.

Lighting Science Group Corporation, Healthe, Inc., and Global Value Lighting, LLC

On April 30, 2019, Lighting Science Group Corporation, Healthe, Inc., and Global Value Lighting, LLC brought a complaint against the OSRAM companies OSRAM GmbH, OSRAM Licht AG, OSRAM Opto Semiconductors GmbH, and OSRAM Opto Semiconductors, Inc. and against a number of other companies in the lighting industry before the United States International Trade Commission (ITC). Lighting Science Group Corporation has also brought a complaint against the same OSRAM companies before the United States District Court for the District of Delaware. In the proceedings, the plaintiffs are claiming infringement of three U.S. LED patents and demanding, among other things, the cessation of imports, a prohibitory injunction, and compensation for damages. The proceedings before the District Court have been suspended. OSRAM anticipates that it will be able to successfully defend its legal position in the proceedings and has responded to the complaint at the ITC.

In accordance with IAS 37.92, no further information will be disclosed in respect of the above matters as OSRAM believes that such disclosure could seriously prejudice the outcome of the litigation in question.

OSRAM was named as a defendant in various legal disputes and proceedings in connection with its business activities, including fire investigations. Some of the legal actions include claims for indeterminate amounts of damages and/or punitive damages claims. In light of the number of legal disputes and other proceedings in which OSRAM is involved, there is a possibility that some of these proceedings could result in rulings against OSRAM that may have a considerable effect on OSRAM's net assets, financial position, and results of operations.

26 | Equity

Common Stock and Treasury Shares

The common stock of OSRAM Licht AG amounted to €96,848,074 as of September 30, 2019 (previous year: €104,689,400). It is divided into 96,848,074 no-par-value ordinary registered shares (previous year: 104,689,400). This equates to a notional interest in the common stock of €1.00 per share. Each share grants shareholders one voting right and entitles them to receive dividends.

The following table shows the changes in the number of treasury shares and in the number of shares outstanding:

Change in Treasury Shares and Shares Outstanding

shares

	Treasury shares		Shares outstanding	
	Fiscal year		Fiscal year	
	2019	2018	2019	2018
As of the beginning of fiscal year	8,145,509	8,289,639	96,543,891	96,399,761
Retirement of treasury shares	(7,841,326)	–	–	–
Share buyback	2,663,125	–	(2,663,125)	–
Issue to beneficiaries of the transaction bonus	–	(10,289)	–	10,289
Issue to beneficiaries of the OSRAM Stock Awards Program	(107,205)	(98,151)	107,205	98,151
Issue in connection with the employee share purchase program (Base Share Program)	(63,828)	(35,690)	63,828	35,690
As of the end of fiscal year	2,796,275	8,145,509	94,051,799	96,543,891

Authorized Capital

On February 20, 2018, the Annual General Meeting authorized the Managing Board, subject to the approval of the Supervisory Board, to increase the common stock of OSRAM Licht AG by up to €24,078,562 in total by issuing, in one or more tranches, a total of up to 24,078,562 new registered no-par-value shares, each representing €1.00 of the capital stock, in return for cash and/or non-cash contributions in the period until February 19, 2023 (Authorized Capital 2018). In specific circumstances, the Managing Board may, subject to the approval of the Supervisory Board, disapply the preemptive rights of shareholders in full or in part.

Contingent Capital

On February 20, 2018, the Annual General Meeting authorized the Managing Board, subject to the approval of the Supervisory Board, to issue bearer or registered subordinated or non-subordinated convertible bonds and/or warrant-linked bonds, profit-sharing rights, and/or income bonds (or combinations of these instruments) (collectively referred to below as ‘bonds’) in an aggregate principal amount of up to €1,000,000,000 in the period until February 19, 2023, on one or more occasions, also simultaneously in different series, and to grant the holders or beneficiaries of the bonds (collectively referred to below as ‘holders’) conversion or option rights up to a maximum of 10,468,940 registered no-par-value shares in the Company representing a proportionate amount of the capital stock totaling up to €10,468,940 in accordance with the more detailed conditions attached to the bonds (‘terms and conditions of issue’).

The bonds can be issued in return for cash and/or non-cash capital contributions. The terms and conditions of issue may provide for an option or conversion obligation at the end of the term or at an earlier date, or upon the occurrence of a specific event. The bonds may be issued in euros or—subject to a maximum limit equivalent to the value in euros—in the legal currency of an OECD country.

Additional Paid-in Capital

The change in additional paid-in capital was the result of the retirement of treasury shares and share-based payment transactions > [Note 30 | Share-based Payment](#).

Retained Earnings

Retained earnings includes the undistributed net income generated by the OSRAM Licht Group in the past. This item also includes actuarial gains and losses on pension plans and similar commitments.

In fiscal year 2018, changes in ownership interest without change in control had also been included in an amount of €67 million in connection with the OSRAM CONTINENTAL transaction.

Treasury Shares

In compliance with section 71(1) no. 8 of the *Aktiengesetz* (AktG—German Stock Corporation Act) and in accordance with standard business practice, the Annual General Meeting held on February 14, 2017, passed a new resolution authorizing the Managing Board to acquire (including by using equity derivatives) in the period up to February 13, 2022, for any purpose to the extent permitted by law and in accordance with the provisions specified in the authorizing resolution, treasury shares equating to up to a total of 10% of the capital stock in existence at the time authorization comes into effect and the capital stock in existence each time that this authorization is exercised, whichever is lower. With the approval of the Supervisory Board, the Managing Board partially exercised the authorization to purchase treasury shares under a share buyback program in fiscal year 2019. In the period from January 10, 2019 up to and including May 28, 2019, the Company acquired 2,663,125 treasury shares via the stock exchange at a weighted average price of €28.8028 per share (excluding purchase-related costs) and a total price of €77 million (excluding purchase-related costs). This equates to 2.75% of the capital stock of OSRAM Licht AG.

Non-controlling Interests

The decrease in non-controlling interests in fiscal year 2019 essentially arose in connection with OSRAM CONTINENTAL.

The following financial information for OSRAM CONTINENTAL GmbH, Munich, Germany, is presented in aggregate form in accordance with IFRS before intragroup consolidation:

Financial Information for OSRAM CONTINENTAL GmbH

in € million

	Fiscal year	
	2019	2018
Ownership interests held by non-controlling interests	50.0%	50.0%
Accumulated non-controlling interests	70	133
Current assets	145	127
Non-current assets	199	377
Current liabilities	211	114
Non-current liabilities	5	3
Revenue	275	65
Net income (loss)	(257)	(5)
Total comprehensive income (loss)	(256)	(4)
Net income (loss) attributable to non-controlling interests	(64)	0

OSRAM CONTINENTAL's goodwill of €171 million was written off as of September 30, 2019. For further information, see [Note 15 | Goodwill and Other Intangible Assets](#).

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Because the partial goodwill method is used for OSRAM CONTINENTAL, a significant portion of the notional impairment loss is proportionally attributed to the unrecognized goodwill; this is calculated for the non-controlling interests by extrapolation from the goodwill that is recognized. Only €19 million of the impairment loss recognized was attributable to Continental's non-controlling interests.

OSRAM controls OSRAM CONTINENTAL owing to special voting rights that permit OSRAM to direct material activities. At the same time, the holder of the non-controlling interests was granted intellectual property rights in proportion to its interest that may mean the assets presented cannot be used to meet the liabilities of the rest of the OSRAM Licht Group.

Appropriation of Profits

In accordance with the AktG, the appropriation of profits is based on the unappropriated profit reported in the single-entity financial statements of OSRAM Licht AG prepared in accordance with German GAAP.

In fiscal year 2019, a dividend of €107 million was distributed from the unappropriated profit of OSRAM Licht AG for fiscal year 2018 in accordance with the resolution adopted at the Annual General Meeting on February 20, 2019. This corresponds to a dividend of €1.11 per dividend-bearing ordinary share. The Managing Board and Supervisory Board will propose to the Annual General Meeting of OSRAM Licht AG on February 18, 2020, that no dividend be distributed for fiscal year 2019.

B.6.7 Other Disclosures

27 | Additional Disclosures on Capital Management

Capital management supports the OSRAM Licht Group in attaining its financial goals. In addition to ensuring the solvency of the Group and the individual companies and reducing financial risk, the main focus continues to be on minimizing the cost of capital and safeguarding the Group's financial stability and flexibility.

The capital structure (ratio of equity to total assets) decreased from around 57% as of the end of fiscal year 2018 to approximately 48% as of the end of fiscal year 2019.

To assess our capital structure, we use net debt divided by EBITDA. In addition, the ratio of adjusted net debt to EBITDA is determined. The calculation of these indicators is described in section [A.2.6 Reconciliation of Performance Indicators](#) in the combined management report.

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Capital Structure Data

in € million

	September 30,	
	2019	2018
EBITDA OSRAM (continuing operations)	176	522
Net debt	(350)	(51)
Net debt in relation to EBITDA	(2.0)	(0.1)
Adjusted net debt	(516)	(213)
Adjusted net debt in relation to EBITDA	(2.9)	(0.4)

The capital management tools generally available to the Managing Board of OSRAM Licht AG are equity-related measures, borrowing, and share repurchases. Additional information on authorizations granted to the Managing Board of OSRAM Licht AG to implement equity-related measures and share repurchases can be found in [Note 26 | Equity](#). Existing credit lines are described in [Note 20 | Debt](#).

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The OSRAM Licht Group does not have any corporate credit ratings from rating agencies.

28 | Financial Instruments

The following table shows the carrying amounts of financial instruments according to their classification under IFRS 9 as of September 30, 2019:

Carrying Amounts and Fair Values of Financial Assets and Liabilities

in € million

	Category according to IFRS 9	September 30, 2019		October 1, 2018	
		Carrying amount	Fair value	Carrying amount	Fair value
Financial assets					
Cash and cash equivalents ¹⁾	FAaC	310	310	333	333
Trade receivables	FAaC	523	523	549	549
Trade receivables that are to be sold under a factoring agreement	FVPL	34	34	62	62
Other financial assets					
Derivatives not designated in a hedge accounting relationship	FVPL	4	4	4	4
Derivatives in connection with cash flow hedges	n.a.	–	–	–	–
Equity instruments ²⁾	FVOCI	5	5	3	3
Interests in investment entities	FVPL	4	4	2	2
Other financial assets	FAaC	39	39	60	60
Assets held for sale	FAaC	63	63	34	34
Financial liabilities					
Debt					
Loans from banks	FLaC	617	619	368	368
Other debt	FLaC	42	42	17	17
Trade payables	FLaC	548	548	714	714
Other financial liabilities					
Derivatives not designated in a hedge accounting relationship	FVPL	16	16	7	7
Derivatives in connection with cash flow hedges	n.a.	7	7	9	9
Contingent consideration due from acquisitions	FVPL	36	36	18	18
Other financial liabilities	FLaC	82	82	31	31
Liabilities associated with assets held for sale	FLaC	15	15	8	8

1) Cash and cash equivalents consists primarily of deposits at banks with an investment grade rating and includes cash (predominantly denominated in euros or U.S. dollars) in checking accounts and fixed-term deposits with an original term of between one day (overnight deposits) and three months. To a small extent, it also includes checks and cash on hand.

2) Of which €3 million was attributable to the equity investment in Recogni, Inc., Cupertino, California, U.S.A. and €2 million to the equity investment in TetraVue, Inc., Wilmington, Delaware, U.S.A. All other equity instruments assigned to the FVOCI category are indicated in > Note 38 | List of Equity Investments of the OSRAM Licht Group in Accordance with Section 313 of the HGB.

The aggregated carrying amounts by IFRS 9 category are as follows:

Aggregated Carrying Amounts

in € million

	Category according to IFRS 9	Carrying amount	
		September 30, 2019	October 1, 2018
Financial assets measured at amortized cost	FAaC	934	976
Financial assets measured at fair value through other comprehensive income without recycling to profit or loss	FVOCI	5	3
Financial assets at fair value through profit or loss	FVPL	42	69
Financial liabilities measured at amortized cost	FLaC	1,305	1,138
Financial liabilities at fair value through profit or loss	FVPL	51	25

The following table shows the carrying amounts and fair values of financial instruments according to their classification under IAS 39 as of September 30, 2018:

Carrying Amounts and Fair Values of Financial Assets and Liabilities

in € million

	Category according to IAS 39	September 30, 2018	
		Carrying amount	Fair value
Financial assets			
Cash and cash equivalents ¹⁾	n.a.	333	333
Available-for-sale financial assets	AfS	5	5
Trade receivables	LaR	614	614
Other financial assets			
Derivatives not designated in a hedge accounting relationship	FAHfT	4	4
Derivatives in connection with cash flow hedges	n.a.	–	–
Other financial assets	LaR	60	60
Assets held for sale	LaR	34	34
Financial liabilities			
Debt			
Loans from banks	FLaC	368	368
Other debt	FLaC	17	17
Trade payables	FLaC	714	714
Other financial liabilities			
Derivatives not designated in a hedge accounting relationship	FLHfT	7	7
Derivatives in connection with cash flow hedges	n.a.	9	9
Other financial liabilities	FLaC	49	49
Liabilities associated with assets held for sale	FLaC	8	8

1) Cash and cash equivalents consists primarily of deposits at banks with an investment grade rating and includes cash (predominantly denominated in euros or U.S. dollars) in checking accounts and fixed-term deposits with an original term of between one day (overnight deposits) and three months. To a small extent, it also includes checks and cash on hand.

The aggregated carrying amounts by IAS 39 category are as follows:

Aggregated Carrying Amounts

in € million

	Category according to IAS 39	Carrying amount
		September 30, 2018
Loans and receivables	LaR	708
Financial assets held for trading	FAHFT	4
Available-for-sale financial assets	AfS	5
Financial liabilities measured at amortized cost	FLaC	1,155
Financial liabilities held for trading	FLHFT	7

Determination of Fair Values of Financial Instruments Carried at Cost and Amortized Cost in the Statement of Financial Position

Because of their short maturities, the fair values of cash and cash equivalents, trade receivables and trade payables with a remaining term of up to twelve months, and of other current financial assets and liabilities correspond approximately to their carrying amounts.

The fair values of loans from banks and other non-current financial liabilities are determined by discounting future cash flows using rates currently available for debt of similar terms and remaining maturities.

Determination of Fair Values of Financial Instruments Carried at Fair Value in the Statement of Financial Position

The financial instruments recognized at fair value in the statement of financial position include trade receivables that are to be sold under factoring programs, derivatives, equity instruments, interests in investment entities, and contingent consideration obligations in the context of acquisitions.

Trade receivables that are to be sold under factoring programs are measured on the basis of discounted cash flows using current market interest rates, corresponding to hierarchy level 2 of IFRS 13 for determining fair value.

The fair values of derivative financial instruments are determined on the basis of inputs that are observable either directly or indirectly. The exact determination depends on the nature of the derivative. The fair value of forward exchange contracts is based on forward exchange rates. The fair value of commodity derivatives (swaps, forwards) is based on forward commodity prices. This approach corresponds to hierarchy level 2 of IFRS 13 for determining fair value.

Equity instruments are measured on the basis of the best information available as of the reporting date, in particular information about transactions involving interests in the affected entities. If, after analyzing an entity's operating performance, OSRAM concludes that the previous carrying amount is close to the current fair value, the carrying amount is left unchanged. This measurement approach corresponds to hierarchy level 3 of IFRS 13 for determining fair value. The €2 million increase in the carrying amount in fiscal year 2019 resulted from the acquisition of shares in Recogni, Inc., Cupertino, California, U.S.A.

Interests in investment entities are measured using the annual, half-year, or quarterly reports of the asset management companies; the fair value is determined on the basis of the share of net assets attributable to OSRAM. The measurement of the equity investments held by the investment entities can be based on all three hierarchy levels of IFRS 13 for determining fair value. Overall, the interests in investment entities are assigned to the lowest hierarchy level, i.e., level 3. The €2 million increase in the carrying amount of the interests in investment entities in fiscal year 2019 resulted from capital contributions.

Contingent consideration obligations in the context of acquisitions are recognized as a liability at the expected amount. Subsequent adjustments to contingent consideration are recognized in profit or loss. The fair value of the liability is calculated on the basis of the current estimate of the affected business entities' key performance indicators that are used to determine the contingent consideration. This measurement approach corresponds to hierarchy level 3 of IFRS 13 for determining fair value.

The fair values of each type of derivative financial instrument recognized as a financial asset or financial liability were as follows:

Fair Values of Derivative Financial Instruments

in € million

	September 30, 2019		September 30, 2018	
	Assets	Liabilities	Assets	Liabilities
Foreign currency exchange contracts	4	23	4	14
Commodity derivatives	0	–	0	1
Fair value	5	23	4	15

In fiscal year 2019, net gains/losses on financial instruments, excluding foreign currency gains and losses, were as follows in accordance with IFRS 9:

Net Gains/Losses on Financial Instruments

in € million

	Fiscal year 2019
Financial assets measured at amortized cost	(2)
Financial assets at fair value through profit or loss	(18)

Net gains/losses on financial assets measured at amortized cost contain changes in loss allowances, gains or losses on derecognition, and reversals of impairment losses.

Net gains/losses on financial assets and financial liabilities measured at fair value through profit or loss consist of changes in the fair values of contingent consideration obligations in the context of acquisitions, derivative financial instruments for which hedge accounting was not applied, trade receivables that are to be sold under factoring programs, and interests in investment entities.

In fiscal year 2018, net gains/losses on financial instruments, excluding foreign currency gains and losses, had been as follows in accordance with IAS 39:

Net Gains/Losses on Financial Instruments

in € million

	Fiscal year 2018
Loans and receivables	(1)
Available-for-sale financial assets	1
Financial assets and financial liabilities held for trading	(19)

Net gains/losses on loans and receivables contain changes in loss allowances, gains or losses on derecognition, and reversals of impairment losses.

Net gains/losses on available-for-sale financial assets include gains on the sale of such financial instruments.

Net gains/losses on financial assets and financial liabilities held for trading consist of changes in the fair values of derivative financial instruments for which hedge accounting was not applied.

Foreign currency gains and losses on the realization and measurement of monetary assets and liabilities led to a net gain of €5 million in the fiscal year under review (previous year: net gain of €6 million).

The interest income from financial assets measured at amortized cost included in the line items *Interest income* and *Income (loss) from discontinued operations, net of tax*, in the consolidated statement of income amounted to €2 million (previous year: €3 million); this income comprised, among other things, interest income from short-term deposits with banks.

The interest expenses on financial liabilities measured at amortized cost included in the line items *Interest expenses* and *Income (loss) from discontinued operations, net of tax*, in the consolidated statement of income amounted to €10 million (previous year: €7 million); these interest expenses largely related to debt.

29.1 Financial Risk Management

Market Risks

The market risks relevant to OSRAM include currency risk, interest rate risk, and commodity price risk. OSRAM seeks to manage and control these risks primarily through its regular operating activities and uses derivative financial instruments when deemed appropriate from a risk perspective.

The amounts determined on the basis of sensitivity analyses in the sections below represent hypothetical data, which may differ significantly from the actual impact on the consolidated statement of income or the consolidated statement of comprehensive income, especially because of simplified assumptions and as a result of unpredictable developments in financial markets.

Currency Risk

Transaction Risk and Currency Risk Management

OSRAM's international operations expose the Company to currency risks in the ordinary course of business, particularly from U.S. dollars, Malaysian ringgits, and Chinese renminbi.

The currency risk is partly mitigated by purchasing goods, commodities, and services in the respective currencies as well as by performing production activities and other services along the value chain in the local markets. Operating company financing or investing activities are preferably conducted in the relevant functional currency or on a hedged basis. Operating companies are prohibited from borrowing or investing in foreign currencies on a speculative basis.

In accordance with the revised policies for the foreign currency management system used throughout the Group, every OSRAM company has been obliged since February 1, 2018, to hedge 100% of its net foreign currency exposure for a planning horizon of at least three months. Before this change, the companies were required to hedge their net foreign currency exposure within a band ranging from 75% as a minimum up to 100% for a planning horizon of at least three months. In addition, the net foreign currency exposures of the reporting segments are calculated and the currency risk is hedged over a longer period of up to twelve months. In line with the nature of the underlying risks, the further into the future the expected cash flows are, the lower the hedge ratios are. The main currency risks arising in connection with financial items in the statement of financial position and in connection with executory contracts and planned transactions are in respect of the U.S. dollar.

USD Exposure

Nominal amounts in USD million

	September 30,	
	2019	2018
Gross exposure before hedging	153	182
Net exposure after hedging	6	2

Forward Exchange Contracts Designated as Hedging Instruments

OSRAM uses derivative financial instruments, especially forward exchange contracts, to hedge against exchange rate fluctuations. Certain derivative financial instruments that are used to hedge forecast transactions and executory contracts (hedged items) and that meet the requirements for hedge accounting are accounted for as cash flow hedges.

An economic relationship exists between hedged items and the hedging instruments, because the conditions of the forward exchange contracts match those of the highly probably future transactions, in respect of both the notional amount and the likely payment date. The underlying risk of the forward exchange contracts is identical to that of the hedged risk components. A hedge ratio of 1:1 was therefore specified. To test hedge effectiveness, OSRAM uses the dollar offset method, which involves comparing the change in the fair value of the hedging instruments with the change in the fair value of the hedged items attributable to the hedged risks. As of September 30, 2019, the net balance of the cumulative change in the fair value of the hedging instruments stood at €-7 million, whereas the fair value of the hedged items changed by €7 million.

The main potential reasons for hedge ineffectiveness include:

- differences in the timing of the cash flows from the hedged item and the hedging instrument
- different effects of counterparty risk on the change in the fair value of the hedged item and the hedging instrument
- changes in the expected level of the cash flows from the hedged item and the hedging instrument

Forward exchange contracts designated as hedging instruments

	Maturity				Total
	up to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	
As of September 30, 2019					
Nominal amount in USD million	82	52	35	17	185
Average forward rate (EUR/USD)	1.148	1.144	1.144	1.145	
As of September 30, 2018					
Nominal amount in USD million	120	65	51	7	244
Average forward rate (EUR/USD)	1.233	1.219	1.203	1.191	

In connection with cash flow hedges, realized net hedging losses before tax amounting to €18 million (previous year: €10 million) were reclassified from *Other components of equity* in the consolidated statement of financial position to Cost of goods sold and services rendered in the consolidated statement of income due to the realization of the hedged item. The net hedging gains or losses recognized in other comprehensive income during the fiscal year amounted to a net loss of €17 million (previous year: net loss of €18 million).

Sensitivity Analysis

OSRAM uses a sensitivity analysis to determine the hypothetical impact of fluctuations in the exchange rate between the U.S. dollar and the euro on income (loss) before income taxes and on equity. The analysis includes foreign currency exposures denominated in U.S. dollars of companies whose functional currency is the euro. The foreign currency exposures comprise in particular cash and cash equivalents as well as receivables and payables. In addition, the analysis covers euro foreign currency exposures of companies whose functional currency is the U.S. dollar. All currency derivatives outstanding as of the end of the reporting period are also remeasured by applying the hypothetical exchange rate. This analysis does not take into account the offsetting effects of unrecognized executory contracts and forecast transactions. According to the sensitivity analysis, a 10% increase or decrease in the value of the euro against the U.S. dollar as of September 30, 2019, and 2018, would result in the following pre-tax effects:

Sensitivity Analysis USD/EUR

in € million

	Change of exchange rate as of September 30, 2019		Change of exchange rate as of September 30, 2018	
	by +10%	by –10%	by +10%	by –10%
Net income (loss) before income taxes OSRAM Licht Group (total)	0	1	(2)	2
Other income (loss) before income taxes	15	(19)	19	(23)
Total effect on equity	15	(18)	17	(21)

Effects of Currency Translation

The effects of exchange rate fluctuations on the translation of the financial statements of subsidiaries outside the eurozone into the reporting currency are recognized in equity in OSRAM's consolidated financial statements. To consider the effects of foreign currency translation in risk management, there is an assumption that investments in foreign-based operations are permanent and that reinvestment of profits is continuous.

Interest Rate Risk

OSRAM may be exposed to interest rate risk, especially as a result of rising finance costs due to an increase in interest rates; conversely, falling interest rates lead to lower interest income from deposits. The purpose of interest rate risk management is to monitor and manage interest rate risk.

Variable-rate financial instruments are subject to cash flow risk, which is reflected in uncertainty about the level of future interest payments. This risk also affects fixed-income financial instruments as soon as they are reinvested or refinanced. These risks are quantified using cash flow sensitivity analysis. This kind of analysis includes all cash and cash equivalents as well as debt as of the end of the reporting period. To simulate the potential impact of changes in the market interest rate, a parallel shift in the yield curve of +100 and –25 basis points is assumed for all currencies. The table below shows the annual effect on interest payments and net interest on the basis of the exposure as of the end of the reporting period:

Sensitivity Analysis Interest Risk

in € million

	September 30,	
	2019	2018
Cash and cash equivalents	310	333
Debt ¹⁾	(659)	(385)
Exposure	(350)	(52)
Annual effect of an interest increase by 100 basis points	(3)	1
Annual effect of an interest decrease by 25 basis points	1	0

1) Debt is included in the nominal amount relevant for calculating the interest. Since the transaction costs have been included when applying the effective interest method in accordance with IFRS 9, the carrying amount may be lower than the nominal amount.

OSRAM does not believe there is any relevant current exposure to interest rate risk (defined as the risk of changes in fair value) because the primary interest-bearing financial instruments held by OSRAM are measured at amortized cost. As of the end of the reporting period, there were no interest rate derivatives measured at fair value.

Commodity Price Risk

Commodity price risks arise from fluctuation in the price of the commodities that OSRAM uses to manufacture products and that it hedges by means of derivative financial instruments. This is particularly the case for gold and copper.

Each OSRAM company is responsible for recording, measuring, monitoring, reporting, and hedging its risks arising from forecast and pending commodity purchase transactions (commodity price risk exposure). Under the mandatory guidelines, the companies must hedge these risks within a narrow band from 75% to 100% of their risk exposure. The risk exposure is derived from pending and forecast procurement transactions to cover the commodity demand in the product business for the current and subsequent quarter.

A large proportion of the requirement for precious metals, particularly gold, that can be recovered in the semiconductor manufacturing process is met using lending transactions. This mitigates price risk attaching to precious metals. The remaining aggregated commodity price risk is hedged primarily using commodity derivatives (swaps and forwards), which are measured at fair value through profit or loss. Commodity derivatives are not included in hedge accounting.

OSRAM uses a sensitivity analysis to estimate the effects on net income (loss) and equity of hypothetical changes in the fair values of the commodity derivatives. This analysis does not take into account the offsetting effects of procurement transactions that have not yet been recognized. According to the sensitivity analysis, a 10% increase in the forward price of gold as of September 30, 2019, would lead to an increase of €0 million in income (loss) before income taxes (previous year: €1 million). A 10% decrease in the forward price of gold would lead to a fall in income (loss) before income taxes by the same amount.

Liquidity Risk

Liquidity risk relates to the possibility that OSRAM may not be able to meet its existing and future financial obligations. To monitor and manage liquidity risk, OSRAM uses cash forecasts and effectively manages its cash and net working capital.

As of September 30, 2019, the liquidity reserve in the form of cash and cash equivalents amounted to €310 million (previous year: €333 million). OSRAM also had at its disposal unused lines of credit totaling €490 million as of September 30, 2019 (previous year: €771 million). To diversify the funding structure and to supplement other liquidity management instruments, OSRAM entered into a factoring agreement with a major German factoring company on September 23, 2019, under which trade receivables in a volume of up to €95 million can be sold on a non-recourse basis; no receivables had been sold as of September 30, 2019.

The following table shows all contractually fixed payments for settlement, repayments, and interest resulting from recognized financial liabilities as of September 30, 2019, including expected net cash outflows from derivative financial liabilities. The amounts disclosed are undiscounted net cash outflows for the next fiscal years, based on the earliest date on which OSRAM could be required to pay. Cash outflows for financial liabilities (including interest) without fixed amount or timing are based on the terms and conditions as of September 30, 2019.

Settlement, Repayments, and Interest

in € million

	September 30,		
	2020	2021 to 2024	2025 and thereafter
Non-derivative financial liabilities			
Loans from banks	498	116	6
Other debt	42	-	-
Trade payables	548	-	-
Other financial liabilities	113	27	-
Derivative financial liabilities	23	-	-
Total financial liabilities	1,224	143	6

Credit Risk

Credit risk arises when a customer or other counterparty of a financial instrument is unable to meet its payment obligations or if the assets used as collateral decline in value. OSRAM is exposed to credit risk especially in relation to receivables from its business operations. In terms of financing activities, bank deposits, cash equivalents, and derivatives with positive fair values are exposed to credit risk.

The maximum exposure to credit risk of financial assets, without taking account of any collateral, is represented by their carrying amount.

Effective monitoring and management of credit risk is a core competency of risk management. It includes setting credit limits, performing credit checks, or using ratings. Customer ratings and individual customer limits are based on generally accepted rating methodologies, with the input consisting of information obtained from external rating agencies, data service providers, and OSRAM's previous customer default experience. Credit risk is recorded and monitored on an ongoing basis. Receivables amounting to €26 million were collateralized as of September 30, 2019 (previous year: €11 million), primarily by means of credit insurance.

In relation to credit risk in financing activities, OSRAM aims to have a broadly based business volume in order to reduce credit risk and excessive dependence on individual institutions. The banks with which OSRAM enters into finance transactions are selected and regularly reviewed according to various criteria, in particular credit quality considerations.

As of September 30, 2019, and 2018, there were no significant concentrations of credit risk.

30.1 Share-based Payment

OSRAM grants a range of share-based payment components. Since fiscal year 2013, OSRAM has offered its own share-based payment programs to employees and members of the Managing Board. These programs provide for settlement using equity instruments.

Share-based Payment Programs of OSRAM Licht AG

Stock Awards

OSRAM grants stock awards as a form of long-term remuneration that is settled with OSRAM Licht AG shares (OSRAM Stock Awards). The beneficiaries include the members of the Managing Board of OSRAM Licht AG and senior managers in the OSRAM Licht Group.

Senior managers in the domestic and foreign subsidiaries receive stock awards under a program that links the volume of stock awards granted with company-related performance criteria. After the fiscal year has ended, the company granting the stock awards decides on the target amount (monetary value) that it will grant to its senior managers. This target amount is adjusted on the basis of achievement of the company-related targets set by the Managing Board for the past fiscal year. The targets for fiscal year 2019 and the previous year were predominantly based on the average earnings per share for the past three fiscal years. To measure the degree to which these targets are attained, a lower limit of 0% and an upper limit of 200% are applied. The number of shares awarded at the time of grant is calculated by dividing the actual monetary value by the closing price of the OSRAM Licht AG shares in XETRA trading on the grant date and subtracting the expected dividends over the four-year vesting period.

The remuneration expense related to the stock awards is recognized over a four-year vesting period. Only upon expiration of the four-year vesting period does the beneficiary receive shares in OSRAM Licht AG without having to make a payment. Generally, all stock awards are forfeited if the beneficiary's employment terminates during the vesting period. During the vesting period, the beneficiaries are not entitled to dividends. Stock awards may not be sold, transferred, pledged, or otherwise encumbered during the vesting period.

In accordance with the program terms and conditions, stock awards to employees are settled by means of a cash payment when a subsidiary leaves the OSRAM Licht Group. As a result, 6,807 awards intended as equity-settled arrangements were converted into cash-settled awards in fiscal year 2019. The liability under the program recognized for the discontinued operation amounted to €0 million as of September 30, 2019.

In connection with equity-settled stock awards to senior managers, a pre-tax expense for share-based payments of €4 million (previous year: €4 million) was recognized in fiscal year 2019. When the stock awards for which the vesting period had expired were exercised, 107,205 shares were issued to senior managers in November 2018 at cost with an average share price of €47.34. The fair value at the time of grant was €27.25.

OSRAM Stock Awards

	Fiscal year			
	2019		2018	
	Executive employees	Board	Executive employees	Board
Grant date	11/8/2018	11/8/2018	11/8/2017	11/8/2017
Fair value	€30.42	€28.91	€64.47	€60.27
Number of stock awards granted	159,651	59,157	97,103	38,255
Fair value of new awards at grant date	€5 million	€2 million	€6 million	€2 million

As in the previous year, an individual target amount was specified in the agreements on share-based remuneration entered into with the Managing Board of OSRAM Licht AG in the reporting period. The grant of awards for OSRAM Licht shares after the end of the fiscal year is dependent on achievement of the same company-based performance criteria as those for senior managers. The definition of target attainment is also identical. These stock awards grant an entitlement to OSRAM Licht shares, which the beneficiary will receive upon expiration of a vesting period of around four years. Starting with stock awards granted for fiscal year 2015, the value of the shares to be transferred is capped at 250% of the relevant target amount.

The fair value of one stock award at the time of grant was calculated using an option model in fiscal year 2019. This applies a reduction taking into account the maximum variable share-based remuneration amount (cap) when the awarded OSRAM Licht shares are received. This reduction in value results in a deviation from the monetary value of a stock award used to calculate the number of shares in accordance with the employment contract.

For the members of the Managing Board of OSRAM Licht AG, the remuneration expense related to the stock awards is generally recognized over a five-year vesting period that begins when share-based remuneration is agreed in the first year and ends upon expiration of the subsequent four-year vesting period. The system of Managing Board remuneration and the awards granted in the period under review are explained in detail in the remuneration report.

In fiscal year 2019, an expense from share-based payments of €1 million was recognized in connection with stock awards granted to members of the Managing Board of OSRAM Licht AG (previous year: €1 million). When the stock awards for which the vesting period had expired were exercised, 38,235 stock awards were paid out in cash to former members of the Managing Board at a share price of €34.42. The fair value at the time of grant was €25.11.

Base Share Program

In fiscal year 2019, employees of the domestic OSRAM companies could again acquire Company shares with a value of up to €720 with a discount of €360. When calculating the number of OSRAM Licht shares to be granted, the volume-weighted average price of OSRAM Licht shares in XETRA trading on the Frankfurt Stock Exchange during the four consecutive trading days starting upon expiration of the acceptance period was used as a basis. The shares are subject to a lock-up period of six months from expiration of the acceptance period, during which they cannot be sold or otherwise disposed of. The fair value under the Base

Share Program corresponds to the tax-privileged allowance paid by OSRAM. In fiscal year 2019, this program resulted in expenses (before tax) for the participating companies of €1 million (previous year: €1 million).

31 I Personnel Costs

Personnel Costs

in € million

	Fiscal year	
	2019	2018
Wages and salaries	(1,092)	(1,075)
Statutory social welfare contributions and expenses for optional support	(176)	(169)
Expenses relating to pension plans and employee benefits	(41)	(33)
Personnel costs	(1,309)	(1,278)

The number of employees is measured in terms of the average full-time equivalents (FTEs) for the year. The employees were assigned to the following functional areas:

Employees by Function

FTE

	Fiscal year	
	2019	2018
Production and service	18,610	19,767
Research and development	2,752	2,621
Selling	2,017	1,995
Administration and general services	1,307	1,255
Employees	24,685	25,637

32 I Earnings per Share

Earnings per Share

in € million, unless otherwise stated

		Fiscal year	
		2019	2018
Net income (loss)		(467)	141
Less: portion attributable to non-controlling interests		(62)	3
Net income attributable to shareholders of OSRAM Licht AG		(405)	137
Weighted average shares outstanding – basic	in thousands	95,636	96,525
Effect of dilutive potential equity instruments	in thousands	349	400
Weighted average shares outstanding – diluted	in thousands	95,986	96,926
Basic earnings per share	in €	(4.23)	1.42
Diluted earnings per share	in €	(4.22)	1.42
Basic earnings per share OSRAM (continuing operations)	in €	(2.94)	1.92
Diluted earnings per share OSRAM (continuing operations)	in €	(2.93)	1.91
Basic earnings per share OSRAM (discontinued operation)	in €	(1.29)	(0.49)
Diluted earnings per share OSRAM (discontinued operation)	in €	(1.28)	(0.49)

New tranches were issued under the existing programs for granting performance-based stock awards to the Managing Board of OSRAM Licht AG and senior managers in the OSRAM Licht Group (OSRAM Stock Awards) in fiscal years 2019 and 2018. As of September 30, 2019, there were no outstanding awards that were not included in the calculation of diluted earnings per share because their inclusion would not have had a dilutive effect.

Earnings per share related to the discontinued operation is calculated using the weighted average of the number of shares outstanding shown above.

In fiscal year 2019, a dividend of €107 million was distributed from the unappropriated profit of OSRAM Licht AG for fiscal year 2018 in accordance with the resolution adopted at the Annual General Meeting in February 2019. This corresponds to a dividend of €1.11 per dividend-bearing share.

33 | Segment Information

The OSRAM Licht Group is managed centrally by the Managing Board of OSRAM Licht AG in its function as chief operating decision maker ('CODM'). The Managing Board is responsible for the operating activities of the OSRAM Licht Group. The following information is intended to show how it monitors the reportable segments.

In November 2018, the Managing Board adopted a new strategy for the business units that will enable them to concentrate even more on digitalization and markets of the future going forward. The business units now concentrate on opto semiconductors, automotive applications, and digital applications.

Since the start of fiscal year 2019, OSRAM has therefore had the following three reportable segments: Opto Semiconductors (OS), Automotive (AM), and Digital (DI).

The Lighting Solutions (LS) Business Unit was classified as a discontinued operation in the first quarter and is not a reportable segment [▶ Note 4 | Acquisitions, Disposals, and Discontinued Operations](#).

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The segment disclosures for the prior year are presented on a comparable basis.

Description of Reportable Segments

Opto Semiconductors

The Opto Semiconductors Segment manufactures opto semiconductors. Its product portfolio includes LEDs and laser, infrared, and optical sensors. The products are used in the automotive industry as well as in communication products and consumer goods, general and industrial lighting, plant lighting, and projection.

Automotive

The Automotive Segment develops and produces lamps, light modules, and sensors, which it sells to original equipment manufacturers and their suppliers in the automotive industry and to the spare parts market. The subsidiary OSRAM CONTINENTAL develops and markets automotive systems based on LED and laser technology as well as other customer-specific system solutions.

Digital

The Digital Segment handles all of OSRAM's business activities that will benefit the most from the growing use of digital technologies. It develops, produces, and markets LED light engines (a combination of an LED module and the related electronic control gear) and specialty lighting for the entertainment sector and for industrial use.

Reconciliation to the Consolidated Financial Statements

The *Reconciliation to Consolidated Financial Statements* line item contains business activities and items that are not directly related or allocated to OSRAM's reportable segments.

Corporate Items and Pensions

Corporate items includes certain business activities and special topics that are not directly attributable to the segments because the Managing Board of OSRAM Licht AG does not consider them to be indicative of the segments' performance. These include costs for Group management and for central research and innovation topics. The *Pensions* item includes those pension-related income and expenses at OSRAM that are not allocated to the segments.

In fiscal year 2019, the EBITDA column of the *Corporate items and pensions* line item included €–99 million (previous year: €–93 million) relating to *Corporate items* and €–6 million (previous year: €–5 million) relating to Pensions. The most significant influence on Corporate items in fiscal year 2019 was general administrative expenses amounting to a total of €66 million. A notable component of these expenses was the cost of the governance function amounting to €48 million, including personnel costs and relevant materials. Corporate items also comprises basic research expenditure, including for the resulting patents, totaling €21 million and costs of €7 million for 'innoventures,' i.e., units focused on pursuing new, innovative business ideas. Special items of €–27 million (previous year: €–27 million), which largely comprised restructuring expense, were reported under Corporate items.

Eliminations, Corporate Treasury, and Other Reconciling Items

Eliminations, corporate treasury, and other reconciling items comprises the consolidation of transactions between the segments, certain reconciliation and reclassification items, and the operations of OSRAM's Corporate Treasury.

Segment Performance Measures

The accounting policies for the segment information are generally the same as those described in [Note 2 | Summary of Significant Accounting Policies](#). Corporate overheads and certain other items not directly attributable to segments are allocated to the segments.

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The costs of Group headquarters are generally allocated according to the source of the costs. The costs of the governance function, i.e., functions clearly associated with corporate governance, are no longer allocated to the operating segments. Users only bear costs incurred centrally in proportion to their use of the corresponding services provided by Group headquarters. The only exceptions from this principle are certain services (e.g., accounting services) where the effort required to determine a 'cost driver' would be unreasonable. These services will continue to be allocated using an adequate formula. The treatment of certain other regular business items will remain unchanged.

Segment EBITDA

The Managing Board of OSRAM Licht AG is responsible for assessing the performance of the segments. Earnings before net financial income or expense, income taxes, impairment losses on goodwill and amortization of, and impairment losses on, other intangible assets, net of reversals of impairment losses as well as depreciation of, and impairment losses (net of reversals of impairment losses) on property, plant, and equipment (EBITDA) has been specified as the performance measure for the segments.

Key decisions on pension-related issues are taken centrally. Therefore, EBITDA primarily includes current service cost only and no plan administration costs or financing effects arising from legacy plans that have been closed.

Moreover, income taxes are not a component of EBITDA since income tax is only imposed on legal entities, which typically do not correspond to the structure of the segments.

Reconciliation to the Consolidated Financial Statements

Reconciliation EBITDA to Income (Loss) before Income Taxes

in € million

	Fiscal year	
	2019	2018
EBITDA	176	522
Depreciation	(257)	(222)
Amortization	(265)	(29)
Income (loss) from investments accounted for using the equity method, net	(10)	(2)
Interest income	2	3
Interest expenses	(14)	(10)
Other financial income (expenses), net	(10)	1
Income (loss) before income taxes OSRAM (continuing operations)	(377)	263

Reconciliation Total Segment Net Capital Employed to Total Assets

in € million

	September 30,	
	2019	2018
Total segment net capital employed	2,268	2,574
Reconciliation to consolidated financial statements		
Net capital employed corporate items and pensions	(149)	(127)
Net capital employed Treasury ¹⁾	287	281
Other reconciling items		
Tax related assets	432	358
Liabilities and provisions	1,497	1,644
Total assets	4,335	4,730

1) OSRAM Treasury does not have net capital employed in the same way as an operating segment, but it is determined here in the same way as for the operating segments. The assets consist primarily of cash and cash equivalents.

Income (Loss) from Investments Accounted for Using the Equity Method, Net

in € million

	Fiscal year	
	2019	2018
Segments		
Opto Semiconductors	–	–
Automotive	(5)	(3)
Digital	–	0
Reconciliation to consolidated financial statements		
Corporate items and pensions	(5)	1
Income (loss) from investments accounted for using the equity method, net	(10)	(2)

Revenue by Regions

in € million

	By location of customer	
	Fiscal year	
	2019	2018
EMEA	1,180	1,284
APAC	1,232	1,462
Americas	1,053	1,044
OSRAM (continuing operations)	3,464	3,789
thereof Germany	553	692
thereof foreign countries	2,911	3,097
therein U.S.A.	805	871
therein China (including Hong Kong) and Taiwan	760	953

The EMEA region comprises Europe, Russia, the Middle East, and Africa. The Americas region includes the U.S.A., Canada, Mexico, and South America. The APAC region comprises Asia, Australia, and the Pacific.

Non-current Assets by Regions

in € million

	September 30,	
	2019	2018
EMEA	910	1,037
APAC	717	770
Americas	325	480
OSRAM (continuing operations)	1,951	2,287
thereof Germany	723	873
thereof foreign countries	1,228	1,414
therein Malaysia	544	581
therein U.S.A.	314	456
therein China (including Hong Kong) and Taiwan	169	178

Non-current assets consist of property, plant, and equipment, goodwill, and other intangible assets.

34 I Related Party Disclosures

The OSRAM Licht Group has business relations with associates and joint ventures.

Transactions with Associates and Joint Ventures

OSRAM's business activities included transactions with associates and joint ventures, in particular in respect of the operating business. These are summarized below:

Transactions with Associates and Joint Ventures

in € million

	Sales of goods and services and other income		Purchases of goods and services and other expense	
	Fiscal year		Fiscal year	
	2019	2018	2019	2018
Associates and joint ventures	0	0	–	–

OSRAM's receivables from and payables to associates and joint ventures were as follows:

Receivables from and Payables to Associates and Joint Ventures

in € million

	Trade receivables		Trade payables	
	September 30,		September 30,	
	2019	2018	2019	2018
Associates and joint ventures	0	1	–	–

The loans granted to joint ventures and associates amounted to €6 million as of September 30, 2019 (previous year: €2 million).

OSRAM regularly reviews, in the normal course of business, loans and receivables associated with joint ventures and associates. This review led to loss allowances being recognized in respect of equity investments in two German start-ups in fiscal year 2019. All other receivables from and payables to related parties are settled regularly.

As of September 30, 2019, accumulated loss allowances on loans and receivables amounted to €2 million (previous year: €0 million).

Transactions with Related Individuals

Individuals classified as related parties comprise the members of the Managing Board and the members of the Supervisory Board of OSRAM Licht AG.

In fiscal year 2019, the members of the Managing Board received cash remuneration of €3 million (previous year: €3 million). The fair value of the share-based remuneration as of the grant date of November 8, 2018, was €2 million (previous year: €2 million). Contributions to the BOA for the members of the Managing Board in fiscal year 2019 amounted to €1 million (previous year: €1 million).

The remuneration and benefits granted to the members of the Managing Board totaled €4 million in fiscal year 2019 (previous year: €6 million).

Equity-settled share-based payments under OSRAM programs gave rise to an expense of €1 million in fiscal year 2019 (previous year: €1 million). For additional information, see [› Note 30 | Share-based Payment](#).

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Former members of the Managing Board of OSRAM Licht AG received aggregate remuneration within the meaning of section 314(1) no. 6 b of the HGB amounting to €1 million in fiscal year 2019 (previous year: €1 million). The defined benefit obligation for all pension commitments to former members of the Managing Board of OSRAM Licht AG and former managing directors of OSRAM GmbH and their surviving dependents amounted to a total of €18 million as of September 30, 2019 (previous year: €16 million). For further information, see [› Note 21 | Pension Plans and Similar Commitments](#).

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Remuneration granted to members of the Supervisory Boards of OSRAM Licht AG and OSRAM GmbH in fiscal year 2019 comprised base remuneration as well as additional remuneration for committee activities; it totaled €1 million, including attendance fees (previous year: €1 million).

The Company did not provide loans or advances to members of the Managing Board or Supervisory Board during the reporting period.

OSRAM has directors' and officers' liability insurance for the members of OSRAM's Managing Board and Supervisory Board and certain other employees in the OSRAM Licht Group. The insurance covers the personal liability of the insured in the event of a financial loss for which these governing body members or employees are held liable in the course of performing their duties. The members of the Managing Board are also covered by the criminal liability insurance that OSRAM has taken out for its employees and governing body members. The insurance covers any lawyers' fees or court costs arising in connection with their defense in criminal or administrative offense proceedings.

Details of the remuneration of individual members of the Managing Board and Supervisory Board are provided in the [› C.4.2 Remuneration Report](#), which is a component of the combined management report.

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As in the previous year, no other major transactions took place between the Company and other members of the Managing Board or Supervisory Board.

Mr. Michael Knuth stepped down as a member of the Supervisory Board with effect from the end of the Supervisory Board meeting on May 7, 2019. Mr. Knuth was succeeded as an employee representative on the Supervisory Board by his elected replacement Mr. Klaus Abel. With effect from September 30, 2019, Ms. Irene Schulz also stepped down as a member of the Supervisory Board. Ms. Schulz was succeeded as an employee representative on the Supervisory Board by her elected replacement Ms. Olga Redda.

Some members of the Supervisory Board of OSRAM Licht AG and of the Supervisory Board of OSRAM GmbH hold, or in the fiscal year under review held, positions of significant responsibility in other companies. OSRAM has relationships with almost all of these companies in the ordinary course of business. Products are bought and sold, and services procured and provided, on an arm's length basis.

35 I Audit Fees and Services

The following table shows the fees for professional services provided by the Company's auditors Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, Germany (EY GmbH) and its network for fiscal years 2019 and 2018:

Auditor's Fees

in € million

	Fiscal year	
	2019	2018
Audit services	4	4
thereof EY GmbH	2	2
Audit-related services	0	1
thereof EY GmbH	0	0
Tax advisory services	0	–
thereof EY GmbH	–	–
Other services	0	0
thereof EY GmbH	0	0
Total auditor's fees	4	4
thereof EY GmbH	2	3

The total fees comprise the expenses incurred by OSRAM Licht AG and all consolidated subsidiaries. The *Audit services* line item for fiscal year 2019 and 2018 therefore includes fees relating to the audit of OSRAM CONTINENTAL GmbH and its subsidiaries as well as audits (that were not required by law) of single-entity financial statements in Germany and abroad.

36 I Corporate Governance

As of September 24, 2019, the Managing Board and the Supervisory Board of OSRAM Licht AG issued the declaration required under section 161 of the AktG and made it publicly accessible on the Company's website at <http://www.osram-group.com/en/our-company/our-management/corporate-governance>.

37 I Events After the Reporting Date

Events Relating to the Public Takeovers Offers Made to the Shareholders of OSRAM Licht AG

On October 4, 2019, ams AG announced in a press release that the minimum acceptance threshold of 62.5% had not been reached. This threshold was set out in the takeover offer made by Opal Bidco GmbH to the shareholders of OSRAM Licht AG that had been published on September 3, 2019.

On October 7, 2019, Luz (C-BC) Bidco GmbH, Munich, Germany, announced in a statement that the takeover offer published on July 22, 2019, had expired because the minimum acceptance threshold specified therein had not been reached.

On October 18, 2019, the consortium comprising Advent and Bain Capital announced in a letter to OSRAM that it had decided not to continue with the due diligence on the Company and, for the time being, would not be pursuing the plan to make a voluntary public takeover offer for all outstanding OSRAM shares.

On October 18, 2019, ams AG announced that it would submit a new voluntary public takeover offer to all shareholders of OSRAM Licht AG through its wholly owned subsidiary ams Offer GmbH. The offer document was published on November 7, 2019 and the acceptance period ends at midnight on December 5, 2019. The offer price is €41.00 per share and the minimum acceptance threshold is 55%. In its reasoned statement pursuant to section 27(1) of the WpÜG, published on November 12, 2019, the Managing Board and the majority of the Supervisory Board recommended that the OSRAM shareholders accept the takeover offer made by ams Offer GmbH.

Other Events

On November 12, 2019, OSRAM announced that it would make further Company-wide process improvements and structural adjustments in the Automotive and Digital Business Units and in the central administrative functions so that it can react to the change in market conditions. These measures will give rise to personnel-related restructuring expenses in fiscal year 2020 that, as a minimum, are expected to be in the high-double-digit millions of euros.

These developments had no impact on the financial statements as of September 30, 2019.

Other than the above, no transactions of particular significance or with material effects on the net assets, financial position, or results of operations have occurred since the reporting date of September 30, 2019.

38 | List of Equity Investments of the OSRAM Licht Group in Accordance with Section 313 of the HGB

List of Equity Investments

Status as of September 30, 2019

	Capital Share in %
Equity investments of OSRAM Licht AG, Munich / Germany	
OSRAM Beteiligungen GmbH, Munich	100.00
OSRAM GmbH, Munich	100.00
Subsidiaries of OSRAM GmbH, Munich / Germany	
Germany (as of September 30, 2019: 12 companies)	
BAG electronics GmbH, Arnstberg	100.00
Heramo Immobilien GmbH & Co. KG, Grünwald	100.00
OSRAM Beteiligungsverwaltung GmbH, Grünwald	100.00
Fluxunit GmbH, Munich	100.00
OSRAM CONTINENTAL GmbH, Munich	50.00 ²⁾
OSRAM Innovation Hub GmbH, Munich	100.00
OSRAM Opto Semiconductors GmbH, Regensburg	100.00
OSRAM OLED GmbH, Regensburg	100.00
Siteco GmbH, Traunreut	100.00
Siteco Beleuchtungstechnik GmbH, Traunreut	100.00
Siteco Lighting GmbH, Traunreut	100.00
OSRAM Lighting Services GmbH, Wipperfürth	100.00
EMEA (excluding Germany) (as of September 30, 2019: 43 companies)	
OSRAM Sales EOOD, Trud / Bulgaria	100.00
OSRAM EOOD, Trud / Bulgaria	100.00
OSRAM A/S, Taastrup / Denmark	100.00
OSRAM Oy, Vantaa / Finland	100.00
Siteco France S.A.S., Fontenay-sous-Bois / France	100.00
OSRAM Lighting S.A.S.U., Molsheim / France	100.00
ADB STAGELIGHT S.A.S.U., Saint-Quentin / France	100.00
OSRAM Continental France SAS, Toulouse / France	50.00 ²⁾
RGI Light Limited, Leeds / Great Britain	100.00
RGI Light (Holdings) Limited, Leeds / Great Britain	100.00
Ring Automotive Limited, Leeds / Great Britain	100.00
Siteco UK Limited, Manchester / Great Britain	100.00
LUX365 Limited, Manchester / Great Britain	100.00
OSRAM Ltd., Reading, Berkshire / Great Britain	100.00
Yekta Setareh Atlas Co. (P.J.S.), Tehran / Iran	100.00
OSRAM S.p.A. - Società Riunite OSRAM Edison Clerici, Milano / Italy	100.00
Siteco Italy S.r.l., Milano / Italy	100.00
Clay Paky S.p.A., Seriate / Italy	100.00
OSRAM Continental Italia S.r.l., Treviso / Italy	50.00 ²⁾
OSRAM d.o.o., Zagreb / Croatia	100.00
OSRAM Benelux B.V., Capelle aan den IJssel / Netherlands	100.00
Fluence Bioengineering B.V., Schiphol / Netherlands	100.00
OSRAM AS, Lysaker / Norway	100.00
Siteco Norway AS, Lysaker / Norway	100.00
OSRAM Continental Austria GmbH, Vienna / Austria	50.00 ²⁾
Siteco Lighting Austria GmbH, Vienna / Austria	100.00
Siteco Österreich GmbH, Vienna / Austria	100.00
OSRAM Sp. z o.o., Warsaw / Poland	100.00
Siteco Poland Sp. z o.o., Warsaw / Poland	100.00
OSRAM, Lda, Carnaxide / Portugal	100.00
OSRAM Romania S.R.L., Bucharest / Romania	100.00
OSRAM Continental Romania S.R.L., Iasi / Romania	50.00 ²⁾
OOO OSRAM, Moscow / Russia	100.00

List of Equity Investments

Status as of September 30, 2019

	Capital Share in %
OSRAM AB, Stockholm / Sweden	100.00
OSRAM Lighting AG, Winterthur / Switzerland	100.00
Siteco Switzerland AG, Winterthur / Switzerland	100.00
OSRAM, a.s., Nové Zámky / Slovakia	100.00
OSRAM Lighting S.L., Madrid / Spain	100.00
Siteco Lighting Spain, S.L., Madrid / Spain	100.00
OSRAM Lighting (Pty) Ltd., Midrand / South Africa	100.00
OSRAM Česká republika s.r.o., Bruntál / Czech Republic	100.00
OSRAM Teknolojileri Ticaret Anonim Sirketi, Istanbul / Turkey	100.00
OSRAM Lighting Middle East FZE, Dubai / United Arab Emirates	100.00
Americas (as of September 30, 2019: 19 companies)	
OSRAM S.A., Buenos Aires / Argentina	100.00
OSRAM Comercio de Solucoes de Iluminacao Ltda., Barueri / Brazil	100.00
OSRAM Chile Ltda., Santiago de Chile / Chile	100.00
OSRAM Ltd., Vancouver / Canada	100.00
OSRAM de Colombia Iluminaciones S.A.S., Bogotá / Colombia	100.00
OSRAM de México S.A. de C.V., Naucalpan / Mexico	100.00
OSRAM S.A. de C.V., Naucalpan / Mexico	100.00
OSRAM Servicios Administrativos, S.A. de C.V., Naucalpan / Mexico	100.00
OSRAM Continental Guadalajara Intelligent Lighting S de RL de CV, Tlajomulco de Zuniga, Jalisco / Mexico	50.00 ²⁾
OSRAM Continental Mexico Services S de RL de CV, Tlajomulco de Zuniga, Jalisco / Mexico	50.00 ²⁾
LedEngin, Inc., San Jose, California / U.S.A.	100.00
Digital Lumens Inc., Wilmington, Delaware / U.S.A.	100.00
Fluence Bioengineering, Inc., Wilmington, Delaware / U.S.A.	100.00
OSRAM Opto Semiconductors, Inc., Wilmington, Delaware / U.S.A.	100.00
OSRAM SYLVANIA INC., Wilmington, Delaware / U.S.A.	100.00
Sylvania Lighting Services Corp., Wilmington, Delaware / U.S.A.	100.00
Traxon Technologies LLC, Wilmington, Delaware / U.S.A.	100.00
Vixar, Inc., Wilmington, Delaware / U.S.A.	100.00
OSRAM CONTINENTAL U.S.A. Inc., Wilmington, Delaware / U.S.A.	50.00 ²⁾
APAC (as of September 30, 2019: 27 companies)	
OSRAM Pty. Ltd., Sydney / Australia	100.00
OSRAM China Lighting Ltd., Foshan / China	90.00
OSRAM Asia Pacific Management Company Ltd., Foshan / China	100.00
OSRAM Guangzhou Lighting Technology Limited, Guangzhou / China	100.00
OSRAM Kunshan Display Optic Co., Ltd., Kunshan / China	100.00
OSRAM CONTINENTAL Kunshan Intelligent Lighting Co., Ltd., Kunshan / China	50.00 ²⁾
OSRAM Continental (Shanghai) Intelligent Lighting Co., Ltd., Shanghai / China	50.00 ²⁾
OSRAM Opto Semiconductors (China) Co., Ltd., Wuxi / China	100.00
OSRAM Opto Semiconductors Trading (Wuxi) Co., Ltd., Wuxi / China	100.00
Traxon Technologies Ltd., Shatin / Hong Kong	100.00
OSRAM Asia Pacific Ltd., Causeway Bay / Hong Kong	100.00
OSRAM Opto Semiconductors Asia Ltd., Wanchai / Hong Kong	100.00
OSRAM CONTINENTAL INDIA Private Limited, Bangalore / India	50.00 ²⁾
OSRAM Lighting Private Limited, Gurgaon / India	100.00
P.T. OSRAM Indonesia, Jakarta / Indonesia	100.00
OSRAM Ltd., Yokohama / Japan	100.00
OSRAM Opto Semiconductors (Japan) Ltd., Yokohama / Japan	100.00
OSRAM (Malaysia) Sdn. Bhd., Kuala Lumpur / Malaysia	100.00
Osram Opto Semiconductors (Malaysia) Sdn Bhd, Penang / Malaysia	100.00
BAG electronics, Inc., Binan, Laguna / Philippines	0.00 ²⁾
TRILUX Lighting Inc., Binan, Laguna / Philippines	0.00 ²⁾
OSRAM Lighting Pte. Ltd., Singapore / Singapore	100.00
OSRAM Co., Ltd., Seoul / South Korea	100.00
OSRAM Opto Semiconductors Korea Ltd., Seoul / South Korea	100.00

List of Equity Investments

Status as of September 30, 2019

	Capital Share in %
OSRAM Taiwan Company Ltd., Taipei / Taiwan	100.00
OSRAM Opto Semiconductors (Taiwan) Ltd., Taipei / Taiwan	100.00
OSRAM (Thailand) Co., Ltd., Bangkok / Thailand	100.00
Associates and joint ventures of OSRAM GmbH, Munich / Germany	
Germany (as of September 30, 2019: 5 companies)	
agrilution GmbH, Munich	18.74 ³⁾
Blickfeld GmbH, Munich	12.55 ³⁾
GoodIP GmbH, Munich	10.00 ³⁾
iThera Medical GmbH, Munich	9.26 ³⁾
Square Metrics GmbH, Berlin	49.00 ³⁾
EMEA (excluding Germany) (as of September 30, 2019: 4 companies)	
EMGO N.V., Lommel / Belgium	50.00
LAMP NOOR (P.J.S.) Co., Tehran / Iran	20.00 ¹⁾
Tvilight B.V., Groningen / Netherlands	47.50
beaconsmind AG, Zurich / Switzerland	14.48 ³⁾
Americas (as of September 30, 2019: 2 companies)	
LeddarTech Inc., Québec / Canada	29.05
Motorleaf Inc., Montreal / Canada	12.94 ³⁾
APAC (as of September 30, 2019: 1 company)	
Siteco Prosperity Lighting (Lang Fang) Co., Ltd., Lang Fang / China	50.00
Other equity investments of OSRAM GmbH, Munich / Germany	
Germany (as of September 30, 2019: 3 companies)	
Caruso GmbH, Ismaning	1.00 ⁴⁾
GSB - Sonderabfall-Entsorgung Bayern GmbH, Baar-Ebenhausen	0.07 ⁴⁾
Unternehmertum VC Fonds II GmbH & Co. KG, Garching b. München	6.06
EMEA (excluding Germany) (as of September 30, 2019: 4 companies)	
KNX Association cvba, Brussels-Diegem / Belgium	2.96 ⁴⁾
Partech Partners S.A.S., Paris / France	8.50
Design LED Products Limited, Edinburgh / Great Britain	6.03 ⁴⁾
Voltimum S.A., Vernier / Switzerland	13.71 ⁴⁾
Americas (as of September 30, 2019: 3 companies)	
Luminaerospace LLC, Denver, Colorado / U.S.A.	2.00 ⁴⁾
Recogni, Inc., Cupertino, California / U.S.A.	6.38 ⁴⁾
TetraVue, Inc., Wilmington, Delaware / U.S.A.	6.36 ⁴⁾

1) Not accounted for using the equity method due to immateriality.

2) Control on the basis of contractual agreements that enable material activities to be directed.

3) Significant influence on the basis of contractual provisions or legal arrangements.

4) These equity investments are measured in accordance with IFRS 9 *Financial Instruments* and are assigned to the FVOCI measurement category (financial assets measured at fair value through other comprehensive income without recycling to profit or loss).

39 | Supervisory Board and Managing Board

Supervisory Board of OSRAM Licht AG

Members in Office as of September 30, 2019	Member Since	Supervisory Board and Comparable Appointments ¹⁾
Peter Bauer Chairman Born June 22, 1960 Independent management consultant	July 5, 2013	Member of the Supervisory Board of Infineon Technologies AG, Neubiberg Intragroup: Chairman of the Supervisory Board of OSRAM GmbH, Munich
Klaus Abel Deputy Chairman Born February 11, 1958 Political Secretary, IG Metall Managing Board	May 7, 2019	Member of the Supervisory Board of Daimler Mobility AG, Stuttgart Member of the Supervisory Board of Otis Management GmbH, Berlin Intragroup: Deputy Chairman of the Supervisory Board of OSRAM GmbH, Munich
Dr. Roland Busch Deputy Chairman Born November 22, 1964 Member of the Managing Board of Siemens AG, Chief Operating Officer and Chief Technology Officer	November 27, 2013	Member of the Board of Directors of Atos SE, France Member of the Board of Siemens Ltd., Saudi Arabia Chairman of the Board of Supervisors of Siemens W.L.L., Qatar Intragroup: Deputy Chairman of the Supervisory Board of OSRAM GmbH, Munich
Dr. Christine Bortenlänger Born November 17, 1966 Chief Executive of Deutsches Aktieninstitut e.V.	August 27, 2013	Member of the Supervisory Board of Covestro AG, Leverkusen Member of the Supervisory Board of Covestro Deutschland AG (Covestro Group), Leverkusen Member of the Supervisory Board of MTU Aero Engines AG, Munich Member of the Supervisory Board of TÜV Süd AG, Munich Intragroup: Member of the Supervisory Board of OSRAM GmbH, Munich
Dr. Margarete Haase Born April 16, 1953 Independent management consultant Former member of the Board of Management of Deutz AG	February 20, 2018	Member of the Supervisory Board of Fraport AG, Frankfurt/Main Member of the Supervisory Board of Marquard & Bahls AG, Hamburg Member of the Supervisory Board of ING Groep N.V., Netherlands Intragroup: Member of the Supervisory Board of OSRAM GmbH, Munich
Frank (Franciscus) H. Lakerveld Born December 5, 1947 Member of the Supervisory Board of Sonepar S.A.	August 27, 2013	Member of the Supervisory Board of Technische Unie, Netherlands Member of the Supervisory Board of Sonepar S.A., France Member of the Supervisory Board of OTRA N.V., Netherlands Intragroup: Member of the Supervisory Board of OSRAM GmbH, Munich
Arunjai Mittal Born February 8, 1971 Independent management consultant	August 28, 2018	Member of the Supervisory Board of tesa SE, Hamburg Member of the Board of Accelerate Technologies Pte. Ltd.: Agency for Science, Technology and Research (A*STAR), Singapore Member of the Board of Silicon Solutions Ventures Pte. Ltd., Singapore Intragroup: Member of the Supervisory Board of OSRAM GmbH, Munich
Alexander Müller Born November 26, 1969 Member of the Works Council of OSRAM GmbH, Herbrechtingen plant	March 31, 2017	
Ulrike Salb Born July 6, 1967 Head of Procurement at OSRAM Licht AG	March 1, 2016	
Irene Schulz²⁾ Born April 10, 1964 Executive Member of the Managing Board of IG Metall	September 3, 2013	Member of the Supervisory Board of AUDI Aktiengesellschaft, Ingolstadt Intragroup: Member of the Supervisory Board of OSRAM GmbH, Munich
Irene Weininger Born November 15, 1974 Chairwoman of the Works Council of OSRAM Opto Semiconductors Gesellschaft mit beschränkter Haftung	April 1, 2017	Intragroup: Member of the Supervisory Board of OSRAM Opto Semiconductors Gesellschaft mit beschränkter Haftung, Regensburg
Thomas Wetzels Born May 18, 1964 Member of the Works Council of OSRAM GmbH, Berlin plant	September 3, 2013	Intragroup: Member of the Supervisory Board of OSRAM GmbH, Munich
Former Members in Fiscal Year 2019	Member from/to	Supervisory Board and Comparable Appointments²⁾
Michael Knuth Deputy Chairman Born April 29, 1957 Trade Union Secretary for IG Metall Bavaria	September 3, 2013 to May 7, 2019	Member of the Supervisory Board of FTE Group Holding GmbH, Ebern Intragroup: Deputy Chairman of the Supervisory Board of OSRAM GmbH, Munich

1) As of September 30, 2019.

2) As of the date of the individual member's departure from the Supervisory Board of OSRAM Licht AG.

3) Ms. Irene Schulz stepped down as a member of the Supervisory Board with effect from September 30, 2019. Ms. Schulz was replaced on the Supervisory Board by the elected substitute member Ms. Olga Redda.

Committees of the Supervisory Board of OSRAM Licht AG

	Meetings in Fiscal Year 2019	Tasks	Members as of September 30, 2019
Executive Committee	October 26 and December 3, 2018; May 7 and July 29, 2019	Performs the duties of a nomination and remuneration committee. Makes preparations for the appointment of members of the Managing Board, the determination of Managing Board members' remuneration, and the full Supervisory Board's review of the remuneration system for the Managing Board; deals with Managing Board contracts. Decides whether to approve transactions with members of the Managing Board and people or companies closely associated with them (related parties), and coordinates the work of the Supervisory Board.	Peter Bauer Klaus Abel (since May 7, 2019) Dr. Roland Busch Michael Knuth (until May 7, 2019) Thomas Wetzel
Audit Committee	November 6 and December 3, 2018; February 6, May 7, and July 29, 2019	Oversees the accounting process. Prepares the Supervisory Board's proposal to the Annual General Meeting for the appointment of the auditor and makes a corresponding recommendation to the Supervisory Board. Discusses the quarterly financial results and half-year financial statements prepared by the Managing Board. Prepares the Supervisory Board's review of the single-entity and consolidated financial statements and of the proposal for the appropriation of profits. Deals with ensuring the integrity of the Company's accounting and risk management; monitors the effectiveness of the internal control system, the risk management system, and the internal audit system. Issues the audit engagement to the auditor and monitors the audit of the financial statements. Monitors compliance with legislation, official regulations, and company policies; examines sustainability matters.	Dr. Margarete Haase Dr. Christine Bortenlänger Dr. Roland Busch Alexander Müller Ulrike Salb Irene Schulz
Nomination Committee	none	Recommends candidates to the shareholder representatives on the Supervisory Board for proposal as shareholder representatives to be elected by the Annual General Meeting.	Peter Bauer Dr. Roland Busch Dr. Margarete Haase
Strategy and Technology Committee	December 4, 2018; February 6, May 6, and July 30, 2019	Oversees and advises the Managing Board on questions of corporate strategy and regarding the development and safeguarding of technologies that are relevant for the Company.	Peter Bauer Klaus Abel (since May 7, 2019) Michael Knuth (until May 7, 2019) Frank H. Lakerveld Arunjai Mittal Irene Weininger Thomas Wetzel
Mediation Committee	none	Makes proposals to the Supervisory Board for the appointment or dismissal of members of the Managing Board if the required majority is not reached during the first ballot.	Peter Bauer Klaus Abel (since May 7, 2019) Dr. Roland Busch Michael Knuth (until May 7, 2019) Thomas Wetzel
Remuneration Committee	none	Primarily prepares for the resolution to be adopted by the full Supervisory Board concerning the remuneration system for the Managing Board, including implementation of this system in the Managing Board contracts; also prepares for the setting of targets for variable remuneration, the specification and review of the appropriateness of the total remuneration of the individual Managing Board members, and for the resolution on the annual remuneration report.	Peter Bauer Klaus Abel (since May 7, 2019) Dr. Margarete Haase Irene Weininger
Special Committee	December 13, 2018; January 16, June 3 and 7, August 15, and September 11, 2019	Performs the Supervisory Board's duties regarding bids pursuant to the <i>Wertpapiererwerbs- und Übernahmegesetz</i> (WpÜG—German Securities Acquisition and Takeover Act) and comparable provisions relating to the Company's securities; prepares any resolutions required to be adopted by the Supervisory Board. Decides on behalf of the Supervisory Board on the engagement of consultants to advise on performance of the above-mentioned duties; appoints these consultants on behalf of the Supervisory Board.	Peter Bauer Klaus Abel (since May 7, 2019) Michael Knuth (until May 7, 2019) Dr. Margarete Haase

Managing Board of OSRAM Licht AG

Members in Office as of September 30, 2019	Date of Initial Appointment	End of Term of Appointment	Responsibilities	Supervisory Board and Comparable Appointments ¹⁾
Dr. Olaf Berlien Chairman of the Managing Board (CEO) Born September 20, 1962	January 1, 2015	December 31, 2022	Opto Semiconductors (OS), Automotive Lighting (AM), and Digital (DI) Business Units; Corporate Strategy; Corporate Sales; Corporate Communications & Brand Strategy; Corporate Office (incl. Compliance); General Counsel; Human Resources	Member of the Supervisory Board of Droege Group AG, Düsseldorf Intragroup: Chairman of the Supervisory Board of OSRAM Opto Semiconductors Gesellschaft mit beschränkter Haftung, Regensburg
Ingo Bank Chief Financial Officer (CFO) Born June 9, 1968	September 1, 2016	August 31, 2024	Accounting & Controlling; Corporate Finance & Treasury; Taxes & Subsidiaries; Investor Relations; Information Technology; Corporate Audit; Real Estate; Mergers & Acquisitions; Post Closing Management; Global Shared Services; financial organization of the business units and countries; Center of Expertise	
Dr. Stefan Kampmann Chief Technology Officer (CTO) Born June 28, 1963	July 1, 2016	June 30, 2024	Corporate Innovation; Innoventures (Fluxunit GmbH); Procurement & Supply Chain (incl. Logistics); Quality Management & Operations; Environmental Protection, Health & Safety; R&D organizations of the business units; manufacturing in the business units	Intragroup: Member of the Supervisory Board of OSRAM Opto Semiconductors Gesellschaft mit beschränkter Haftung, Regensburg

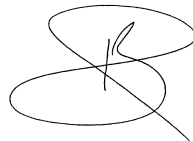
1) As of September 30, 2019

Munich, November 20, 2019

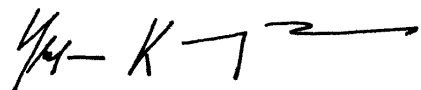
OSRAM Licht AG
The Managing Board



Dr. Olaf Berlien
Chairman of the Managing Board
(CEO)

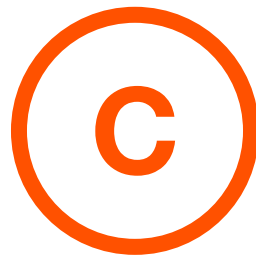


Ingo Bank
Chief Financial Officer
(CFO)



Dr. Stefan Kampmann
Chief Technology Officer
(CTO)

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C.1

Responsibility Statement

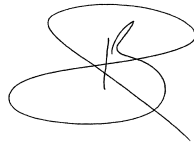
To the best of our knowledge, and in accordance with the applicable reporting principles, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the Group management report, which has been combined with the management report for OSRAM Licht AG, includes a fair review of the development and performance of the business and the position of the Group, together with a description of the material opportunities and risks associated with the expected development of the Group.

Munich, November 20, 2019

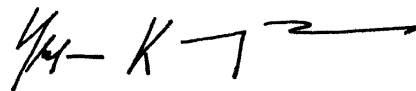
OSRAM Licht AG
The Managing Board



Dr. Olaf Berlien
Chairman of the Managing Board
(CEO)



Ingo Bank
Chief Financial Officer
(CFO)



Dr. Stefan Kampmann
Chief Technology Officer
(CTO)

C . 2

Independent Auditor's Report

Translation of the German Independent Auditor's Report concerning the audit of the consolidated financial statements and group management report prepared in German.

To OSRAM Licht AG

Report on the audit of the consolidated financial statements and the group management report

Opinions

We have audited the consolidated financial statements of OSRAM Licht AG, Munich, and its subsidiaries (the Group), which comprise the consolidated statements of income and comprehensive income for the fiscal year from October 1, 2018 to September 30, 2019, the consolidated statement of financial position as of September 30, 2019, the consolidated statements of cash flows and changes in equity for the fiscal year from October 1, 2018 to September 30, 2019, and the notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report, which is combined with the management report of OSRAM Licht AG, for the fiscal year from October 1, 2018 to September 30, 2019. In accordance with the provisions of German law, we have not audited the content of chapter A.5.4 "Corporate Governance statement" of the combined management report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB ["Handelsgesetzbuch": German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the Group as of September 30, 2019 and of its financial performance for the fiscal year from October 1, 2018 to 30 September 2019, and
- the accompanying group management report as a whole provides a suitable view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our opinion on the group management report does not cover the content of the Corporate Governance statement referred to above.

Pursuant to Sec. 322 (3) Sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 HGB and the EU Audit Regulation (No 537/2014, referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). In conducting the audit of the consolidated financial statements we also complied with International Standards on Auditing (ISA). Our responsibilities under those requirements, principles and standards are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Art. 10 (2) f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Art. 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Key audit matters in the audit of the consolidated financial statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the fiscal year from October 1, 2018 to September 30, 2019. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon; we do not provide a separate opinion on these matters.

Below, we describe what we consider to be the key audit matters:

1) Impairment of goodwill and other intangible assets

Reasons why the matter was determined to be a key audit matter: In our opinion, testing for impairment of goodwill and other intangible assets involves a higher risk of material misstatement due to materiality and considerable judgment involved when assessing future cash inflows and discount rates. Consequently, the impairment of these assets was determined to be a key audit matter.

Auditor's response: During our audit, we examined the process and control implemented by management to determine the recoverable amounts for potential risks of error. We appraised the process in terms of whether it is suitable for providing indications of a lower recoverable amount. In addition, we discussed with the Company the demarcation of cash-generating units and the allocation of assets and liabilities to the respective cash-generating units and assessed their consistency with the internal reporting structure. We assessed the underlying valuation models for the determination of the fair value in terms of methodology and calculation based on relevant valuation principles. We discussed the underlying assumptions on the development of sales markets, production costs (including purchase prices of primary products), margins and the growth rates applied with the employees responsible for planning and reconciled them with the business plans approved by the Supervisory Board and the Managing Board and with external market data. We analyzed the accuracy of the forecasts by comparing the actual development of revenue and margins with information from prior periods. We obtained an understanding of the methodology and reperformed the calculations used for the cost of capital applied, tested the peer group companies for plausibility and compared the inputs used by OSRAM with the current development of interest rates and market risk premiums. We also performed our own analyses to test the plausibility of the sensitivity analyses prepared by the Company to assess the impairment risk in the event of a possible change in any of the key assumptions. In addition, we assessed the information provided in the notes to the consolidated financial statements on the significant judgments, estimates and assumptions for the testing of impairment of goodwill and other intangible assets with regard to the requirements under IAS 1 and IAS 36. We consulted internal valuation specialists for the assessment of recoverable amounts.

Our audit procedures did not lead to any reservations relating to the impairment of goodwill and other intangible assets.

Reference to related disclosures: The Company's disclosures regarding the relevant accounting principles for the recognition and measurement of goodwill and other intangible assets are contained in chapter B.6.2 "Basis of preparation", note 2 "Summary of significant accounting policies" of the notes to the consolidated financial statements. In addition, the Company provides further information on the composition of goodwill and other intangible assets as well as to their impairment in chapter B.6.5 "Disclosures on the statement of financial position (assets)", note 15 "Goodwill and other intangible assets".

2) Impairment of deferred tax assets

Reasons why the matter was determined to be a key audit matter: Significant deferred tax assets on temporary differences and tax loss carryforwards were reported in the consolidated financial statements of OSRAM Licht AG as of September 30, 2019. The assessment of impairment of these deferred tax assets depends on planning assumptions of future taxable income of the respective taxable entity. The planning of future taxable income for each taxable entity is based on group planning (before income taxes) and is heavily subject to judgment, particularly with regard to the assessment of future business development.

Auditor's response: We examined the process implemented by management for the planning of future taxable income of the respective taxable entity and performed substantive audit procedures. In particular, we discussed the underlying business plans and the assumptions on the development of sales markets, production costs (including purchase prices of primary products), margins and the growth rates applied with the employees responsible for planning. We performed a reconciliation of the business plans approved by the Supervisory Board and the Managing Board and external market data. We consulted internal tax specialists to verify whether tax planning for each taxable entity had been derived correctly from group planning (before income taxes). We performed an evaluation of the planning horizon for assessing the usability of tax loss carryforwards and deductible temporary differences. We also reviewed whether the applicable national tax regulations had been observed for the utilization of tax loss carryforwards and deductible temporary differences. In addition, we assessed the information provided in the notes to the consolidated financial statements on the recognition and measurement of deferred tax assets with regard to the requirements under IAS 1 and IAS 12. Our audit procedures did not lead to any reservations regarding the impairment of deferred tax assets.

Reference to related disclosures: The Company's disclosures regarding the relevant accounting principles for the recognition and measurement of deferred tax assets are contained in chapter B.6.2 "Significant accounting policies", note 2 "Summary of significant accounting policies" of the notes to the consolidated financial statements. In addition, the Company provides further information on the composition of deferred tax assets and their impairment in chapter B.6.4 "Disclosures on the statement of income", note 9 "Income taxes".

3) Personnel-related restructuring measures

Reasons why the matter was determined to be a key audit matter: In connection with the transformation of the market for lighting and the ongoing changes in market conditions, process improvements and structural adjustments were announced in the prior year and a reconciliation of group interests was agreed with the works council on June 10, 2018. Furthermore, in fiscal year 2019, a works council agreement for a voluntary program was signed on January 28, 2019. Both agreements provide for measures for voluntary retirement by employees as well as redundancies where necessary. During the audit, we determined this to be a key audit matter as the measurement of the obligations, especially those arising from the collective agreements, is influenced considerably by estimates and assumptions made by management, which could significantly affect various items in the consolidated financial statements (other current liabilities, other liabilities, provisions, cost of goods sold, selling, general and administrative expenses, research and development costs).

Auditor's response: As part of our audit procedures regarding the personnel-related restructuring measures in the consolidated financial statements (especially recognition criteria and the measurement of provisions and liabilities), we examined the underlying business processes and control and performed analytical procedures and substantive tests. The audit procedures regarding the amount of expenses recorded as well as the recognition, measurement, utilization and reversal of provisions and liabilities also included, but was not limited to, the review of restructuring plans and related written agreements and contracts and communication with employees. For the affected group companies, we reconciled the number of employees affected by these measures, the length of service and personnel expenses with the payroll accounts and personnel master data. We also compared the underlying assumptions regarding the severance payment amount and reconciled these on a sample basis with termination agreements which had already been signed. We also examined the reasons for plan amendments and the resulting reversal of provisions and liabilities. Our audit procedures did not lead to any reservations regarding the accounting for personnel-related restructuring measures.

Reference to related disclosures: The Company's disclosures regarding personnel-related restructuring expenses are contained in chapter B.6.4 "Disclosures on the statement of income", note 5. "Personnel-related restructuring expenses" of the notes to the consolidated financial statements.

Other information

The Supervisory Board is responsible for the Report of the Supervisory Board in chapter C.3 of the Annual Report 2019. In all other respects, management is responsible for the other information. The other information, of which we received a version prior to issuing this auditor's report, includes:

- Chapter A.5.4 "Corporate Governance statement" of the combined management report and the Responsibility Statement in chapter C.1 of the Annual Report 2019,
- the Report of the Supervisory Board in chapter C.3 of the Annual Report 2019,
- Corporate Governance in chapter C.4 (except chapter C.4.2 "Remuneration report" included in the audit of content of the management report) of the Annual Report 2019,
- the non-financial report in chapter C.5 of the Annual Report 2019.

Our opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of management and the Supervisory Board for the consolidated financial statements and the group management report

Management is responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB, and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position and financial performance of the Group. In addition, management is responsible for such internal control as management has determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern. It also has the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, management is responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. In addition, management is responsible for such arrangements and measures (systems) as management has considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides a suitable view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and our audit findings, complies with the provisions of German law and suitably presents the opportunities and risks of future development, and to issue an independent auditor's report that includes our opinions on the consolidated financial statements and the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sec. 317 HGB and the EU Audit Regulation as well as in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the IDW and in supplementary compliance with ISA will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting material misstatements resulting from fraud is higher than for misstatements resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by management and the reasonableness of estimates made by management and related disclosures.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements that comply with IFRSs as adopted in the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB give a true and fair view of the assets, liabilities, financial position and financial performance of the Group.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.
- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by management in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by management as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Report on other legal and regulatory requirements

Further information pursuant to Art. 10 of the EU Audit Regulation

We were elected as group auditor by the Annual Shareholders’ Meeting on February 19, 2019. We were engaged by the Supervisory Board on March 20, 2019. We have been the auditor of OSRAM Licht AG for an uninterrupted period since the audit of the consolidated financial statements for fiscal year 2013.

We declare that the opinions expressed in this auditor’s report are consistent with the additional report to the audit committee pursuant to Art. 11 of the EU Audit Regulation (long-form audit report).

Responsible auditor

The German Public Auditor responsible for the engagement is Siegfried Keller.

Munich, November 20, 2019

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft



Keller
Wirtschaftsprüfer
(German Public Auditor)



Fichtelberger
Wirtschaftsprüfer
(German Public Auditor)

C.3

Report of the Supervisory Board

Dear Shareholders,

OSRAM can look back on an extraordinary and eventful year, which was coined by tough market conditions, further restructuring of the business portfolio, and the takeover process. In fiscal year 2019, OSRAM was faced with a contracting market in certain areas of its business due to a generally weak economic environment. It fell well short of its original targets. OSRAM took steps to mitigate its poor business performance by resolutely pursuing the efficiency and performance programs that it had introduced in the previous year. At the same time, it continued with its transformation into a high-tech company.

In the year under review, the Supervisory Board performed the duties required of it by law, the Articles of Association, and the rules of procedure. We monitored the activities of the Managing Board and regularly advised it on the management of the Company. The Supervisory Board was directly involved in all decisions of fundamental importance to the Company.

In the past fiscal year, the Managing Board provided the Supervisory Board with regular, timely, and comprehensive information, orally and in writing, on all key matters relating to the management of the Company. In particular, this included reports on and explanations of corporate strategy and planning, business performance, the current position of the Group, compliance processes, the financial reporting process, the effectiveness of the Company's internal control and risk management systems, and all significant business events. The Managing Board kept us regularly informed about the Company's strategy and the implementation of the approved strategic action plans, particularly the disposal of the European luminaires business (Siteco). Any deviations in performance compared with corporate planning were explained to us in detail. We discussed key transactions for the Company in detail on the basis of the reports submitted by the Managing Board. The Supervisory Board approved the resolutions proposed by the Managing Board after thorough examination and extensive discussion. It maintained close dialog with the Managing Board (and own advisors) during the reporting year, especially with regard to the ongoing takeover process.

Most of the Supervisory Board's activities in the past fiscal year were performed in the context of plenary meetings. The Supervisory Board held a total of eleven plenary meetings in the fiscal year under review (six were ordinary meetings and five were extraordinary meetings). These took place in November and December 2018, and in February, May, July, August, and September 2019. One Supervisory Board resolution was circulated to the members for adoption in writing. The Supervisory Board also has a number of committees.

Attendance at the plenary meetings averaged 97% in the year under review. The committee meetings were fully attended, with the exception of one Strategy and Technology Committee meeting, two Executive Committee meetings, and two Audit Committees, where one member was absent in each case. During the reporting year, no Supervisory Board member attended half or fewer than half of the meetings of the Supervisory Board and committees to which he or she belonged.

The following table details the attendance of members of the Supervisory Board in its meetings and the meetings of the committees of which they are members:

Meetings of the Supervisory Board and its Committees

Members of the Supervisory Board of OSRAM Licht AG	Number of Meetings of the Supervisory Board and its Committees	Number of Meetings Attended	Attendance Ratio ³⁾
Peter Bauer (Chairman)	25	24	96%
Klaus Abel ¹⁾ (Deputy Chairman)	13	13	100%
Michael Knuth ²⁾ (Deputy Chairman)	12	11	92%
Dr. Roland Busch (Deputy Chairman)	20	14	70%
Dr. Christine Bortenlänger	16	15	94%
Dr. Margarete Haase	22	22	100%
Frank H. Lakerveld	15	15	100%
Arunjai Mittal	15	15	100%
Alexander Müller	16	16	100%
Ulrike Salb	16	16	100%
Irene Schulz	16	16	100%
Irene Weininger	15	15	100%
Thomas Wetzels	19	19	100%

1) Mr. Michael Knuth was succeeded on the Supervisory Board by his elected replacement Mr. Klaus Abel on May 7, 2019.

2) Mr. Michael Knuth stepped down as a member of the Supervisory Board with effect from the end of the Supervisory Board meeting on May 7, 2019.

3) Rounded to the nearest whole number.

The Chairman of the Supervisory Board was in regular contact with the Managing Board outside Supervisory Board meetings and kept abreast of current business developments and significant transactions. The Chairman of the Supervisory Board discussed the outlook for and future direction of the individual businesses and the Company as a whole with the Managing Board in separate strategy meetings.

The Supervisory Board also held regular discussions without the involvement of the Managing Board, mainly to cover Supervisory Board issues and personnel matters relating to the Managing Board. In summer 2019, the Supervisory Board reviewed the efficiency of its activities. The members of the Supervisory Board judged the work carried out in both the plenary sessions and the committees to be efficient overall but also decided that some aspects needed improvement, namely follow-up of work requested by the Supervisory Board, greater involvement in OSRAM's strategy of Supervisory Board members who are not on the Strategy and Technology Committee, and the provision of information to Supervisory Board members between meetings.

The members of the Supervisory Board are responsible for undertaking the training and continuing professional development activities needed to be able to carry out their remit.

c.3.1 Matters Addressed by the Full Supervisory Board

In the fiscal year just ended, the Supervisory Board of OSRAM Licht AG addressed in particular the fundamental corporate strategy and the strategy of the individual business units, including the current business performance of the OSRAM Licht Group, the annual and multi-year planning for the Company and the OSRAM Licht Group, and the position of the Group, especially its financial position and results of operations.

The Supervisory Board was also closely involved in the ongoing takeover process during the past fiscal year. During numerous meetings and conference calls, it studied the details of the two voluntary public takeover offers published in the year under review by Luz (C-BC) Bidco GmbH, Munich, Germany (the bidding company of Bain Capital and The Carlyle Group) on July 22, 2019, and by Opal Bidco GmbH, Frankfurt am Main, Germany (the bidding company of ams AG, Premstätten, Austria) on September 3, 2019. It also focused on issues relating to the Company's valuation in order to assess whether the offer prices were appropriate and examined the investor agreements and cooperation agreements, as well as the reasoned statement for each offer. The Supervisory Board received support from external legal and financial advisors on this matter. It also set up a dedicated committee (Special Committee) to help it efficiently prepare for, and be involved in, the process.

At its meeting on November 6, 2018, the Supervisory Board discussed the business performance in the fourth quarter, together with the preliminary figures for fiscal year 2018. It also approved the annual planning and budget prepared by the Managing Board for fiscal year 2019. Moreover, the Supervisory Board decided on the variable remuneration components, the level of contributions to the pension plan for the Managing Board for fiscal year 2018, and the amendment of details in the Managing Board members' employment contracts. The Supervisory Board also discussed whether to approve a share buyback program with a volume of up to €400 million and a capital reduction to be effected by retiring 7,841,326 Company shares. The Supervisory Board approved both of these measures and, in connection with the capital reduction, adopted a resolution to make the necessary formal amendment to the Articles of Association of OSRAM Licht AG. It examined the possibility of a takeover offer or similar transaction. Furthermore, it set up a dedicated Special Committee in order to ensure its efficient involvement in any takeover process and prepare for any plenary discussions.

At the Supervisory Board meeting held on December 3, 2018, to adopt the financial statements, the Managing Board reported on the position of the Company and the final figures for fiscal year 2018. Also at this meeting, following an in-depth examination of the financial statements documentation, the Supervisory Board approved the single-entity financial statements, the consolidated financial statements, and the combined management report for OSRAM Licht AG and the Group for the year ended September 30, 2018. The single-entity financial statements were thus adopted. The auditors participated in the discussions and reported on the main findings of the audit before the resolution was passed. The report by the Supervisory Board to the Annual General Meeting for fiscal year 2018 was also approved. In addition, the Supervisory Board adopted its resolution proposals for the individual agenda items to be voted on by the 2019 Annual General Meeting. It also approved the Managing Board's proposal to distribute a dividend of €1.11 per dividend-bearing share for fiscal year 2018. The Managing Board reported on the status of the efficiency and performance programs implemented at OSRAM.

At its meeting on February 19, 2019, after the Annual General Meeting, the Supervisory Board addressed the results for the first quarter of the fiscal year and the current performance of the Company. It also discussed the status of the sale of the SLS business in the U.S.A. and the general M&A strategy. Furthermore, it deliberated on the progress of talks with Bain Capital and The Carlyle Group on a possible takeover of up to 100% of the shares in OSRAM Licht AG.

The main items addressed by the Supervisory Board at its meeting on May 7, 2019, were the results for the second quarter and first half of fiscal year 2019, together with the business performance of the Group. In addition, the Supervisory Board dealt with the adjustment of the forecast for the year at the end of March 2019 and the consequently updated multi-year planning. It also took another look at OSRAM's efficiency and performance programs. The Supervisory Board elected Mr. Klaus Abel as Deputy Chairman of the Supervisory Board and a member of the Strategy and Technology Committee. Mr. Abel succeeded Mr. Michael Knuth, who stepped down from the Supervisory Board at the end of the meeting on May 7, 2019. Furthermore, the Supervisory Board set up a Remuneration Committee. It also adopted a resolution to amend details of the distribution of responsibilities among the Managing Board members and examined the status and further milestones in the takeover process. Moreover, the Supervisory Board discussed the disposal of the European luminaires business (Siteco) and the performance of the subsidiary OSRAM CONTINENTAL GmbH.

At the extraordinary meeting on July 4, 2019, the Supervisory Board carefully studied the binding offer from Bain Capital and The Carlyle Group to submit a public takeover offer through Luz (C-BC) Bidco GmbH to the shareholders of OSRAM Licht AG. In particular, the Supervisory Board examined the appropriateness of the consideration. It also approved the signing of an investor agreement in respect of the transaction.

At the meeting on July 29, 2019, the Managing Board reported on the position of the Company and the results for the third quarter. It also agreed to have the content of the separate non-financial report for the OSRAM Licht Group, which the Managing Board was required to prepare, externally reviewed by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, in accordance with sections 289b(3) and 315b(3) of the Handelsgesetzbuch (HGB—German Commercial Code). In addition, the Supervisory Board deliberated on the takeover offer published by Bain Capital and The Carlyle Group on July 22, 2019, particularly with regard to the reasoned statement pursuant to section 27 of the Wertpapiererwerbs- und Übernahmegesetz (WpÜG—German Securities Acquisition and Takeover Act).

At its extraordinary meeting on July 30, 2019, the Supervisory Board signed off the reasoned statement pursuant to section 27 of the WpÜG in respect of the takeover offer dated July 22, 2019, from Bain Capital and The Carlyle Group. The reasoned statement was published on July 31, 2019.

At its extraordinary meeting on August 19, 2019, the Supervisory Board discussed the status of the process relating to the takeover offer dated July 22, 2019, from Bain Capital and The Carlyle Group. It also examined the proposal from ams AG to submit a competing voluntary public takeover offer for all outstanding OSRAM shares. The Supervisory Board compared the two offers, carefully studying the advantages and disadvantages of each possible transaction in terms of the interests of the Company, its shareholders, and other stakeholders. In particular, the Supervisory Board discussed the strategic rationale of a takeover of OSRAM by ams AG. At the extraordinary meeting on August 21, 2019, the Supervisory Board ultimately approved the signing of the cooperation agreement that had been negotiated with Opal Bidco GmbH (bidding company) and ams AG (parent of the bidding company).

At the extraordinary meeting on September 13, 2019, the Supervisory Board signed off the reasoned statement pursuant to section 27 of the WpÜG in respect of the takeover offer dated September 3, 2019, from ams AG to the shareholders of OSRAM Licht AG. By means of a resolution circulated to the members for adoption in writing dated September 17, 2019, the Supervisory Board also signed off an addition to the reasoned statement pursuant to section 27 of the WpÜG relating to ams AG's takeover offer to the shareholders of OSRAM Licht AG.

At its annual strategy meeting on September 24, 2019, in Munich, the Supervisory Board held very detailed discussions on the Company's strategy. The topics that were addressed included the transformation of the Business Units and an in-depth analysis of the Group's investment portfolio, the acquisitions and disposals of companies in the past few years. In view of the new recommendations in the new version of the German Corporate Governance Code, which was signed off by the German Corporate Governance Code Government Commission on May 9, 2019, the Supervisory Board resolved to amend the rules of procedure for the Managing Board and Supervisory Board and to update the targets for the composition of the Supervisory Board. Furthermore, the Supervisory Board approved, together with the Managing Board, the declaration of conformity with the German Corporate Governance Code. The Supervisory Board also examined the progress in the takeover process.

c.3.2 Work Performed by the Supervisory Board Committees

In the past fiscal year, the Supervisory Board made use of seven committees—including the Special Committee set up at the meeting on November 6, 2018, and the Remuneration Committee formed at the meeting on May 7, 2019—to enable it to carry out its responsibilities efficiently. The committees prepared resolutions for the full Supervisory Board and other matters to be addressed in the plenary meetings. In addition, certain Supervisory Board decision-making powers have been transferred to committees to the extent permitted by law. The chairs of the committees provided the Supervisory Board with regular, comprehensive reports on the work performed by the committees.

The Supervisory Board's Executive Committee met four times in the fiscal year under review. It discussed in detail the working relationships in the Managing Board, succession planning, and preparations for decisions on remuneration for fiscal year 2018. Also on the agenda were the results of the Supervisory Board's efficiency review carried out in summer 2019 and other general corporate governance matters. In addition, the Chairman of the Supervisory Board regularly discussed matters of particular importance to the Group, especially concerning corporate strategy and the performance of individual business units, with the members of the Executive Committee.

The Strategy and Technology Committee met on four occasions in the fiscal year under review to deliberate on strategic and technological issues affecting individual business units and the Group as a whole. The adjustment made to the annual forecast during the fiscal year was a particular focus. Other matters covered in detail by the committee included the Opto Semiconductors Business Unit, particularly the General Lighting (GL) segment, the Digital Business Unit, and the business performance of the subsidiary OSRAM CONTINENTAL GmbH.

The Audit Committee held five meetings in the past fiscal year, with the Chairman of the Supervisory Board attending as a guest on all occasions. In the presence of the auditors and the members of the Managing Board, it addressed the financial statements of OSRAM Licht AG and the consolidated financial statements, as well as the combined management report for OSRAM Licht AG and the Group. The Audit Committee issued a recommendation to the Supervisory Board relating to the Supervisory Board's proposal to the 2019 Annual General Meeting for the election of the auditors. In addition, the committee's detailed discussions focused on selecting the auditors, engaging the auditors for fiscal year 2019 (including specifying the key points for the audit), monitoring the independence and eligibility of the auditors as well as the quality of the audit, and setting the audit fee. Further deliberations covered the quarterly financial information and the findings of the auditors' review of the half-year financial report. The Committee addressed the issue of ensuring the integrity of the financial reporting process and discussed the Company's internal control system as well as the risk management system. The Audit Committee's work also focused on the structure, organization, activities, effectiveness, resources, and findings of the Internal Audit function. In another area of activity, it was informed of potential and pending legal disputes. The Audit Committee also discussed the results of investigations by the Internal Audit function into the effectiveness of internal controls and compliance with applicable legislation, official regulations, and internal policies. It studied the reports by the Chief Compliance Officer on OSRAM's compliance program and on significant compliance events in the period under review. The committee also addressed the internal control system relating to tax. Moreover, it made preparations for the Supervisory Board's review of the separate combined non-financial Group report, including the selection and engagement of the external auditor by the Supervisory Board. On the basis of a corresponding resolution by the full Supervisory Board, the Chair of the Audit Committee engaged Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, to review the content of the separate non-financial Group report.

In the past fiscal year, the Supervisory Board's Special Committee held six meetings, on each occasion carefully examining progress in the takeover process and the next steps and milestones. One of the committee's main tasks was to prepare for the Supervisory Board's discussion of the investor agreement with Bain Capital and The Carlyle Group on July 4, 2019, the cooperation agreement with ams AG on August 21, 2019, and the reasoned statements that were issued in each case in accordance with section 27 of the WpÜG.

The Nomination Committee and the newly formed Remuneration Committee did not meet in the past fiscal year, nor did the Mediation Committee have to be convened.

c.3.3 Corporate Governance Code and Single-entity and Consolidated Financial Statements

On September 24, 2019, the Managing Board and Supervisory Board agreed to issue a declaration of conformity in accordance with section 161 of the *Aktengesetz* (AktG—German Stock Corporation Act). The declaration states that the Company has complied with all recommendations of the German Corporate Governance Code in full since the last declaration of conformity on September 25, 2018, and that it will continue to comply with the recommendations in the future. The declaration of conformity was made permanently accessible to shareholders on the Company's website.

No conflicts of interest affecting Managing Board or Supervisory Board members arose that would have had to be disclosed to the Supervisory Board pursuant to sections 4.3.4 and 5.5.2 of the German Corporate Governance Code. In the case of the resolutions by the shareholder representatives on the Supervisory Board of OSRAM Licht AG relating to the approval of the actions of the members of the Supervisory Board of OSRAM GmbH for fiscal year 2018 in accordance with section 32 of the *Mitbestimmungsgesetz* (MitbestG—German Codetermination Act), individual resolutions were adopted for the individual shareholder representatives, since the members of the Supervisory Board of OSRAM Licht AG are largely the same as the members of the Supervisory Board of OSRAM GmbH. The process adopted ensured that Supervisory Board members Dr. Christine Bortenlänger, Dr. Margarete Haase, Peter Bauer, Dr. Roland Busch, Arunjai Mittal, and Frank H. Lakerveld did not take part in the voting relating to the approval of their own actions.

Further disclosures on corporate governance can be found in [C.4.1 Corporate Governance Report](#).

The Supervisory Board conducted regular checks, in every phase of the takeover process, to ensure that Managing Board and Supervisory Board members had no conflicts of interest with any of the bidder companies or their affiliates. It also ascertained, by inquiring with the members of the Managing Board, that there were no special interests. The Supervisory Board obtained written confirmation from each Managing Board member that the potential bidders and their shareholders had not made any financial or non-financial promises to them, or raised the prospect of doing so.

Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, (Ernst & Young) audited the single-entity financial statements and the consolidated financial statements, as well as the combined management report for OSRAM Licht AG and the Group, for the year ended September 30, 2019, and issued an unqualified audit opinion. Ernst & Young have been the auditors for OSRAM Licht AG since the Company was established in fiscal year 2012, and auditors for the OSRAM Licht Group since fiscal year 2013. The auditors responsible for signing the single-entity financial statements have been Mr. Keller, as the responsible auditing partner, since fiscal year 2016 and Mr. Fichtelberger for the first time for fiscal year 2019. The Annual General Meeting on February 19, 2019, had elected Ernst & Young to audit the single-entity financial statements and consolidated financial statements on the basis of the Supervisory Board's proposal, which in turn was based on the Audit Committee's recommendation. Before the Supervisory Board made this proposal, Ernst & Young had confirmed to the Chairman of the Supervisory Board and to the Audit Committee that there were no circumstances that might interfere with their independence as auditors or give rise to doubts about their independence. At the same time, Ernst & Young declared the extent of the work that it had carried out for the Company other than auditing the financial statements or that had been contractually agreed for the next year. The single-entity financial statements of OSRAM Licht AG and the combined management report for OSRAM Licht AG and the Group were prepared in accordance with the requirements of German commercial law. The consolidated financial statements were prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and the additional requirements of German commercial law in accordance with section 315e(1) of the HGB. The auditors conducted the audit in accordance with section 317 of the HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (IDW—Institute of Public Auditors in Germany), and, for the consolidated financial statements, in supplementary compliance with the International Standards on Auditing (ISA). The above-mentioned documents and the Managing Board's proposal for the appropriation of profits were circulated by the Managing Board to the members of the Supervisory Board in due time.

In a first step, the proposal for the appropriation of profits, the single-entity financial statements, the consolidated financial statements, and the combined management report, as well as the associated audit reports by Ernst & Young, were examined and discussed in detail in the meeting of the Audit Committee on December 4, 2019. The financial statements and corresponding audit reports were then comprehensively reviewed in the presence of the auditors at the full Supervisory Board meeting held to adopt the financial statements on the same day; the audit reports had been made available to all members of the Supervisory Board. The auditors reported on the main findings of their audit, in particular the key audit matters. For the audit of OSRAM Licht AG's single-entity financial statements, this was the impairment of financial assets. For the audit of the consolidated financial statements, these were the impairment of deferred taxes, the impairment of goodwill and other intangible assets, and personnel-related restructuring measures. The auditors also stated that there were no major defects or flaws in the internal control system or the risk management system. Additionally, in the same meeting, the Managing Board commented in detail on the financial statements of OSRAM Licht AG and the consolidated financial statements, as well as the risk management system. The auditors also addressed the scope and costs of the audit.

The Supervisory Board concurred with the results of the audit. The Audit Committee's examination and the Supervisory Board's own examination did not result in any objections. The Supervisory Board approved the single-entity financial statements and the consolidated financial statements; the single-entity financial statements were thus formally adopted. The Managing Board has proposed that the entire unappropriated profit of €52,433 thousand be carried forward to the next accounting period. The Supervisory Board examined this proposal, specifically with regard to the distribution policy, the impact on the OSRAM Group's liquidity, and the interests of shareholders. As recommended by the Audit Committee, it then approved and agreed to the Managing Board's proposal for the appropriation of profits. Finally, the Supervisory Board approved this report to the Annual General Meeting.

At its meeting on December 4, 2019, the Supervisory Board reviewed the separate non-financial report of the OSRAM Licht Group in accordance with sections 315b and 315c in conjunction with sections 289c to 289e of the HGB for fiscal year 2019 on the basis of a limited assurance engagement by Ernst & Young, whose report was submitted in due time to the members of the Supervisory Board. The Supervisory Board's review did not give rise to any objections.

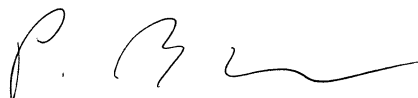
c.3.4 Changes to the Supervisory Board and the Managing Board

Mr. Michael Knuth stepped down as a member of the Supervisory Boards of OSRAM Licht AG and OSRAM GmbH with effect from the end of the Supervisory Board meeting on May 7, 2019. He was succeeded on the Supervisory Boards of OSRAM Licht AG and OSRAM GmbH by his elected replacement member Mr. Klaus Abel. Ms. Irene Schulz also stepped down as a member of the Supervisory Boards of OSRAM Licht AG and OSRAM GmbH with effect from the end of September 30, 2019. She was succeeded on the Supervisory Boards of OSRAM Licht AG and OSRAM GmbH by her elected replacement member Ms. Olga Redda. The Supervisory Board wishes to take this opportunity to express its gratitude to Mr. Knuth and Ms. Schulz for their invaluable contributions and hard work as members of the Supervisory Boards of OSRAM Licht AG and OSRAM GmbH.

The Supervisory Board would like to thank all members of the Managing Board, as well as the employees and employee representatives of OSRAM Licht AG and of all Group companies for their hard work in fiscal year 2019.

Munich, December 4, 2019

On behalf of the Supervisory Board

A handwritten signature in black ink, appearing to be 'P. B.' followed by a long horizontal flourish.

Peter Bauer
Chairman

C . 4

Corporate Governance

c.4.1 Corporate Governance Report

One of the crucial factors for the future success of the OSRAM Licht Group is our ability to increase shareholder value on a sustainable basis, for which the trust of our customers and investors is essential. Transparent, responsible corporate governance enables us to strengthen this trust.

c.4.1.1 Recommendations and Suggestions in the German Corporate Governance Code

The Managing Board and Supervisory Board of OSRAM Licht AG have discussed compliance with the requirements of the German Corporate Governance Code in the version dated February 7, 2017 (the ‘Code’) at great length. On the basis of these deliberations, the annual declaration of conformity was issued on September 24, 2019. The declaration of conformity can be found in [C.4.3 Corporate Governance Declaration](#) and is published on our website www.osram-group.com.

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OSRAM Licht AG voluntarily complies with the Code’s non-binding suggestions, with the following exceptions: We do not believe that the suggestion in section 2.3.2, according to which proxies should also be contactable during the Annual General Meeting, is appropriate for shareholders who are not present or represented at the Annual General Meeting, because the objective of the suggestion—that of issuing or amending instructions regarding the exercise of voting rights via electronic media during the Annual General Meeting itself—involves significant technical uncertainty and therefore threatens the validity of any resolutions passed.

The suggestion in section 3.7(3) of the Code (In the event of a takeover offer, the Management Board should convene an Extraordinary General Meeting at which shareholders will discuss the takeover offer and, if appropriate, decide on corporate actions) was not followed in respect of the two voluntary public takeover offers for OSRAM Licht AG’s shares that were published during the reporting year. The Managing Board held the view that there was no specific need in these particular cases to convene a general meeting as a forum for coordinating the shareholders’ response or for obtaining additional legitimacy for the Managing Board’s actions during the process. There was also no need for corporate actions that would fall under the competence of the general meeting.

c.4.1.2 Management and Control Structure

OSRAM Licht AG is subject to the AktG and therefore has a two-tier management system consisting of a Managing Board and a Supervisory Board.

Supervisory Board

Pursuant to section 7(1) sentence 1 no. 1 of the MitbestG, the Supervisory Board consists of equal numbers of shareholder and employee representatives, i.e., six of each. The term of appointment of all members of the Supervisory Board ends at the end of the Annual General Meeting in 2023. On May 7, 2019, Mr. Michael Knuth stepped down as a member of the Supervisory Board. Mr. Knuth was succeeded as an employee representative on the Supervisory Board by his elected replacement Mr. Klaus Abel. With effect from the end of September 30, 2019, Ms. Irene Schulz also stepped down as a member of the Supervisory Board. She was succeeded as an employee representative on the Supervisory Board by her elected replacement Ms. Olga Redda. Most of the rules applicable to the Supervisory Board and its organization are contained in sections 7 to 12 of the Company’s Articles of Association and in the rules of procedure for the Supervisory Board, which are published on our website www.osram-group.com.

Targets for the Composition of the Supervisory Board

With reference to section 5.4.1(2) of the Code, the Supervisory Board specified targets for its composition (plus a skills profile for the Supervisory Board as a whole) at its meeting on May 2, 2017. At its meeting on September 24, 2019, the Supervisory Board adjusted the targets for its composition with a view to the forthcoming new version of the German Corporate Governance Code that was adopted by the Government Commission on May 9, 2019 (‘2019 Code’). The Company’s intention is to have adopted as best practice the

recommendations and suggestions of the 2019 Code well before it comes into effect. The current targets for the composition of the Supervisory Board are published on our website [» www.osram-group.com](http://www.osram-group.com).

We can report as follows on progress with achieving these targets: The Supervisory Board believes that, overall, it has the skills considered important in light of the activities of the OSRAM Group. These specifically include in-depth experience and knowledge of managing a large or medium-sized company with international operations, of industrial business and of value creation along a variety of value chains, in the field of research and development (particularly relating to the technologies relevant to the Company and adjacent or related areas), in the fields of manufacturing, marketing, sales, and digitalization, in the main markets in which OSRAM operates, in accounting and financial reporting, in financial control/risk management, and in the area of governance/compliance. Furthermore, one member of the Supervisory Board, the Chair of the Audit Committee Dr. Margarete Haase, certainly has proven expert knowledge of accounting or the auditing of financial statements. Together, the members of the Supervisory Board are familiar with the lighting industry. At least four shareholder representatives also have long-standing international experience. All members are within the upper limit of twelve years set by the Supervisory Board for length of service on the Supervisory Board. The same applies to the standard retirement age of 70, with one exception: Frank H. Lakerveld, a shareholder representative on the Supervisory Board, turned 70 on December 5, 2017. On the basis of the Supervisory Board's proposal, the 2018 Annual General Meeting voted in favor of him remaining a member for another term so that the Supervisory Board's work can continue to benefit from his in-depth knowledge and experience of the lighting industry in the years ahead.

The Supervisory Board believes that all shareholder representatives are independent within the meaning of section 5.4.2 of the Code and considers that this number of independent shareholder representatives is appropriate. The names of the independent members can be found in the list of Supervisory Board members, which is presented in [» Note 39 | Supervisory Board and Managing Board](#) in B.6 Notes to the Consolidated Financial Statements. Furthermore, the Supervisory Board assumes that the employee representatives are also independent because it believes that the circumstance of being an employee representative or having an employment contract with the OSRAM Group in itself does not call into doubt the independence of the employee representatives. No former members of the Managing Board are members of the Supervisory Board. Recommendations C.6 to C.12 of the 2019 Code on the independence of shareholder representatives on the Supervisory Board are also complied with. There are no negative indications as per recommendation C.7(2) of the 2019 Code that might cast doubt on the independence of the shareholder representatives on the Supervisory Board.

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At least three of the shareholder representatives on the Supervisory Board are people with no potential conflicts of interest. Several members of the Supervisory Board work in senior positions at other companies with which OSRAM has business relationships or had done so in the preceding year. Transactions that OSRAM conducted with these companies were on an arm's-length basis. The Supervisory Board does not believe that these transactions compromise the independence of its relevant members. The Supervisory Board also made sure that none of its members had any potential conflicts of interest in connection with the process of a potential public takeover of OSRAM Licht AG during the reporting year.

For details on fulfillment of the quota defined in section 96(2) sentence 1 of the AktG, according to which at least 30% of Supervisory Board members must be female and at least 30% male, see [» C.4.3.4 Targets for the Proportion of Women on the Managing Board, Supervisory Board, and in Senior Management](#).

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All Supervisory Board members are within the recommended limit on the number of supervisory board posts pursuant to section 5.4.5 of the Code. All members of the Supervisory Board meet the relevant recommendations C.4 and C.5 of the 2019 Code.

When preparing the nominations for the election of Supervisory Board members by the Annual General Meeting, the Supervisory Board takes account of the targets for its composition and, specifically, that the membership reflects the skills profile drawn up for the Supervisory Board as a whole.

Remit of the Supervisory Board

The Supervisory Board oversees the Managing Board and advises it on the management of the business. The Supervisory Board regularly discusses business performance and planning, strategy and its implementation. It reviews the single-entity financial statements, the management report, the proposal for the appropriation of profits, the consolidated financial statements, and the combined management report. It discusses the quarterly financial results and half-year financial reports and approves the single-entity financial statements of OSRAM Licht AG and the consolidated financial statements, including the independent auditors' report and the findings of the review carried out by the Audit Committee. The Supervisory Board's remit also includes appointing members of the Managing Board and specifying their areas of responsibility. Significant Managing

Board decisions, such as major acquisitions, disposals, and financial actions, require its approval; see section 6 of the rules of procedure for the Managing Board of OSRAM Licht AG, which are published on our website >> www.osram-group.com. Supervisory Board approval is a condition of some resolutions adopted at the Annual General Meeting, such as authorizations for the Managing Board to increase the Company's capital stock (authorized capital), to disapply preemptive rights when issuing debt instruments, using equity derivatives in connection with the acquisition of treasury shares, and, in some cases, when utilizing treasury shares. The Supervisory Board also reviews the separate non-financial Group report. It has the option of engaging an external auditor to review the content of the non-financial reporting. The Supervisory Board exercised this option in fiscal year 2019. The Supervisory Board meets regularly, in some cases without the Managing Board being present. The rules of procedure adopted by the Supervisory Board are available on our website >> www.osram-group.com.

The Supervisory Board currently has seven committees. Their tasks, responsibilities, and work processes meet the requirements of the AktG and the Code. The chairman of each committee reports regularly to the Supervisory Board on the work of the committees.

The **Executive Committee** consists of the Chairman of the Supervisory Board, his deputies, and one employee representative from the Supervisory Board who is elected by the Supervisory Board. It performs the duties of a nomination committee, provided that these duties are not performed by the Nomination Committee or that German law does not require the full Supervisory Board to carry out these duties. In particular, the Executive Committee makes preparations for the appointment of members of the Managing Board and deals with Managing Board contracts, provided that the Remuneration Committee is not responsible for this. When proposing candidates for appointment as members of the Managing Board, the Executive Committee takes into account long-term succession planning and diversity as well as other factors. The Executive Committee also decides whether to approve transactions with members of the Managing Board and people or companies closely associated with them (related parties), and coordinates the work of the Supervisory Board.

The **Audit Committee** comprises three shareholder representatives and three employee representatives from the Supervisory Board. They are elected to the committee by the Supervisory Board. According to German law, the Audit Committee must include at least one member of the Supervisory Board who has expert knowledge of accounting or the auditing of financial statements. Dr. Margarete Haase, who is Chair of the Audit Committee, satisfies these legal requirements and also the requirement of independence pursuant to sections 5.3.2 and 5.4.2 of the Code. The Audit Committee oversees the accounting process. In addition to the review by the independent auditors, the Audit Committee is also required to discuss the Company's quarterly financial results and half-year financial statements prepared by the Managing Board. It prepares the Supervisory Board's review of the single-entity and consolidated financial statements and of the Managing Board's proposal for the appropriation of profits. It deals with the audit of the accounting and financial reporting process and monitors the effectiveness of the Company's internal control system and of its risk management system and internal audit system. The Audit Committee prepares the Supervisory Board's proposal to the Annual General Meeting for the election of the auditors and makes a corresponding reasoned recommendation to the Supervisory Board. Following the adoption of a resolution by the Annual General Meeting, it issues the audit engagement to the independent auditors, deals with specifying the focus of the audit and agreeing the fee, and monitors the audit of the financial statements, particularly the independence of the auditors and the additional services they provide. The committee can make recommendations and suggestions aimed at ensuring the integrity of the financial reporting process. Finally, it monitors the Company's compliance with legislation, official regulations, and company policies and examines sustainability matters. The committee also makes preparations for the Supervisory Board's review of the separate non-financial Group report, including the selection and engagement of the external auditor. The Audit Committee also regularly assesses the quality of the audit of financial statements.

The **Nomination Committee** consists of the Chairman of the Supervisory Board, his deputy, and a further member of the Supervisory Board, who is elected by the shareholder representatives from among their number. The task of the Nomination Committee is to recommend candidates to the Supervisory Board for proposal as shareholder representatives to be elected by the Annual General Meeting. In addition to the required knowledge, skills, and professional experience of the proposed candidates, the targets stated by the Supervisory Board for its composition (see above) should also be taken into consideration, including with regard to reflecting the skills profile drawn up for the Supervisory Board as a whole.

The **Mediation Committee** comprises the Chairman of the Supervisory Board, his deputy, who is elected in accordance with the MitbestG, one member elected by the shareholder representatives on the Supervisory Board, and one member elected by the employee representatives on the Supervisory Board. It makes proposals to the Supervisory Board for the appointment or dismissal of members of the Managing Board if

the two-thirds majority of the votes by the members of the Supervisory Board as required by section 31(2) of the MitbestG is not achieved during the first ballot.

The **Strategy and Technology Committee**, which is made up of three shareholder representatives and three employee representatives elected by the Supervisory Board, oversees and advises the Managing Board on questions of corporate strategy and regarding the development and safeguarding of technologies that are relevant for the Company.

The **Remuneration Committee** consists of the Chairman of the Supervisory Board, his deputy, who is elected in accordance with the MitbestG, one employee representative from the Supervisory Board, and one shareholder representative from the Supervisory Board. The committee primarily prepares for the resolution by the full Supervisory Board concerning the remuneration system for the Managing Board, including the implementation of this system in the Managing Board contracts; it also prepares for the setting of targets for variable remuneration, the specification and review of the appropriateness of the total remuneration of the individual Managing Board members, and for the resolution on the annual remuneration report. The Remuneration Committee also makes preparations for the full Supervisory Board's regular review of the remuneration system for the Managing Board.

The **Special Committee**, which consists of the Chairman of the Supervisory Board, his deputy, who is elected in accordance with the MitbestG, and the Chair of the Audit Committee, performs the Supervisory Board's duties regarding bids pursuant to the WpÜG and comparable provisions relating to the Company's securities. Any resolutions required to be adopted by the Supervisory Board are prepared by the Special Committee. Another key task of the Special Committee is to decide, on behalf of the Supervisory Board, on the engagement of consultants to advise on performance of the above-mentioned duties and to appoint these consultants on behalf of the Supervisory Board.

The members of the Supervisory Board and its committees are disclosed in the Notes to the Consolidated Financial Statements [› Note 39 | Supervisory Board and Managing Board](#) in B.6 Notes to the Consolidated Financial Statements.

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Detailed information on the Supervisory Board's work in fiscal year 2019 can be found in [› C.3 Report of the Supervisory Board](#).

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The remuneration of the members of the Supervisory Board is described in [› C.4.2 Remuneration Report](#).

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Managing Board

As the management body of OSRAM Licht AG, the Managing Board is obliged to act in the Company's interests and increase shareholder value on a sustainable basis. The Managing Board currently has three members. They are jointly responsible for the overall management of the business and decide on fundamental issues regarding business policy and corporate strategy, as well as on the Company's annual and multi-year planning.

The Managing Board is responsible for preparing the Company's half-year financial statements, the single-entity financial statements of OSRAM Licht AG, the consolidated financial statements, and the quarterly financial information. It also produces a separate non-financial Group report in accordance with the requirements of the CSR-Richtlinie-Umsetzungsgesetz (CSR-RUG—German CSR Directive Implementation Act). In addition, the Managing Board must ensure that all legal requirements, regulatory requirements, and internal policies are complied with, and must work to ensure that all Group companies also comply with them. This includes making sure that an adequate compliance management system that is geared to the Company's risk position is in place. The fundamental principles of this system are described in [› C.4.3 Corporate Governance Declaration](#) and are published on our website [›› www.osram-group.com](http://www.osram-group.com).

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The Managing Board and Supervisory Board work closely together for the benefit of the Company. The Managing Board provides the Supervisory Board with regular, timely, and comprehensive information on all issues of importance to the Company in relation to strategy, planning, business performance, financial position, results of operations, and compliance, as well as of material business risks. The Managing Board considers diversity when filling managerial positions within the Company and, among other things, strives to increase the number of women in these roles.

The members of the Managing Board are disclosed in the Notes to the Consolidated Financial Statements
 > [Note 39 | Supervisory Board and Managing Board](#) in B.6 Notes to the Consolidated Financial Statements.

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The remuneration of the members of the Managing Board is described in > [C.4.2 Remuneration Report](#).

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c.4.1.3 Purchase and Sale of Company Shares

Under Article 19 of Regulation (EU) No. 596/2014 on market abuse, members of the Managing Board and Supervisory Board are legally required to disclose the purchase or sale of shares in OSRAM Licht AG, derivatives thereof, or other financial instruments relating to them if the value of the transactions conducted by the relevant member of the Managing Board or Supervisory Board exceeds a total volume of €5,000 in any calendar year. Related parties associated with members of Managing Board or Supervisory Board are subject to the same requirement. A process has been established to ensure that these transactions are duly published if such notification is received. Transactions that have been reported can be accessed on the Company's website at > www.osram-group.com.

c.4.1.4 Shareholder Relations

OSRAM Licht AG routinely reports to its shareholders four times a year on the Group's business performance and net assets, financial position, and results of operations. The Annual General Meeting, at which the Company's business performance is also reported, is usually held in the first five months of the fiscal year. The Managing Board enables the shareholders to follow the speeches by the Chairman of the Supervisory Board and the Managing Board members by means of electronic communication media, particularly the Internet, and enables shareholders to vote by proxy. Under sections 14(5) and (6) of the Articles of Association, the Managing Board may also allow shareholders to cast their votes in writing or by means of electronic communication (absentee voting), or to participate in the Annual General Meeting without the need to be present at the meeting venue and without a proxy, and to exercise all or some of their rights either fully or partially by means of electronic communication (electronic participation). In view of the significant technical uncertainties already mentioned and the resulting risks regarding the validity of the resolutions passed, the Managing Board has not yet made the option of electronic participation available. Nor has use yet been made of absentee voting, since shareholders have adequate comparable methods for exercising their voting rights, particularly in the form of the Company's proxies. The reports, documents, and information legally required for the Annual General Meeting, including the annual report, are available online, as are the agenda for the Annual General Meeting, and any shareholder counter motions or nominations that are required to be made available.

The Annual General Meeting elects the shareholder representative members of the Supervisory Board. It resolves on all matters assigned to it by law, particularly the appropriation of profits, the approval of the actions of the Managing Board and Supervisory Board, the election of the independent auditors, and amendments to the Articles of Association. When voting on resolutions, each share grants one vote. Resolutions to amend the Articles of Association, such as measures that change the Company's capital stock, are adopted by the Annual General Meeting and implemented by the Managing Board. Shareholders may submit motions regarding resolutions proposed by the Managing Board and Supervisory Board and may contest resolutions adopted by the Annual General Meeting. Shareholders who collectively hold at least 1% or at least €100,000 of the capital stock may also demand that the courts appoint a special auditor to examine specific issues, subject to the additional requirements of section 142 of the AktG.

As part of our investor relations activities, we provide comprehensive information on the Company's performance. OSRAM makes extensive use of the Internet for reporting purposes. The information published at > www.osram-group.com includes quarterly financial information, half-year and annual reports, earnings releases, ad hoc announcements, presentations, press releases, and the financial calendar containing the key publication dates for financial communications and the date of the Annual General Meeting.

Our Articles of Association, the rules of procedure for the Supervisory Board and Managing Board, and all declarations of conformity and other information relating to corporate governance are available on our website at > www.osram-group.com.

c.4.2 Remuneration Report

A Component of the Combined Management Report

The remuneration report summarizes the principles used to determine the total remuneration of the members of the Managing Board of OSRAM Licht AG and explains the structure and amount of the remuneration paid to the members of the Managing Board. It also describes the principles and amount of the remuneration paid to the members of the Supervisory Board. In addition, the remuneration of each member of the Managing Board and Supervisory Board for fiscal year 2019 is presented on an individual basis. The remuneration report is based on the recommendations of the German Corporate Governance Code and includes the disclosures required by the Handelsgesetzbuch (HGB—German Commercial Code), German accounting standards (GAS), and International Financial Reporting Standards (IFRS). The remuneration report is part of the combined management report.

The new version of the German Corporate Governance Code, as adopted by the Government Commission on May 9, 2019 ('2019 Code'), will soon be coming into effect, and so OSRAM Licht AG has already implemented a number of the 2019 Code's new recommendations as best practice [› C.4 Corporate Governance](#). In light of the current situation, in which OSRAM Licht AG may be subject to a public takeover, no adjustments to the remuneration of the Managing Board are being made for now [› A.2.2.3 Other Significant Events Responsible for the Course of Business in A. Combined Management Report](#). The intention is to decide on any changes to the Managing Board's remuneration once there is clarity regarding the future ownership structure of OSRAM Licht AG.

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c.4.2.1 Remuneration System for the Members of the Managing Board

Principles and Objectives

The Supervisory Board decides on the remuneration system for the Managing Board. It regularly evaluates the appropriateness of the remuneration paid to members of the Managing Board and of the remuneration system, taking account of statutory requirements and the recommendations in the German Corporate Governance Code, and adjusts them if necessary.

The Supervisory Board is guided, in particular, by the following principles when designing the remuneration system and setting the remuneration:

- **The Company's situation:** The Supervisory Board takes the economic situation as well as the Company's success and future prospects into consideration when deciding on the structure and measurement of remuneration.
- **OSRAM Group strategy:** The performance targets set for the Managing Board's remuneration should be in harmony with the business strategy.
- **Customary level of remuneration:** When reviewing whether the remuneration is at a customary level, the Supervisory Board looks at the level of remuneration in comparable companies and at the Managing Board's remuneration relative to the remuneration of senior managers and of the workforce as a whole in the OSRAM Group. Remuneration should be attractive in comparison to what is offered by competitors and thus be an incentive for suitably qualified executives to join and remain with the Company in the long term.
- **Sustainable growth of the Company:** The remuneration system is designed to encourage the Managing Board to run the Company sustainably and thus to avoid taking on unreasonable risks. The remuneration is thus structured with an appropriate balance of non-performance-based and performance-based components. The multi-year basis of calculation takes account of both positive and negative developments, encouraging the Managing Board to take a long-term approach.
- **Remuneration linked to performance:** The performance-based remuneration is measured according to the achievement of demanding targets that are agreed in advance. Performance targets and parameters for comparison cannot be amended subsequently. Moreover, the performance-based remuneration component makes up a significant proportion of the total remuneration.
- **External remuneration experts:** If needed, advice is obtained from independent external remuneration experts.
- **Stakeholder interests:** Because the remuneration system is focused on sustainably increasing the Company's value, the interests of the Managing Board are brought into line with the interests of the Company's most important stakeholders: its shareholders, who are its owners, and its employees.

The remuneration system for the Managing Board of OSRAM Licht AG was established on July 5, 2013, and was most recently approved by the Company's Annual General Meeting on February 26, 2015.

The remuneration system is made up of the following components:

Remuneration System

32% ¹⁾	32% ¹⁾	36% ¹⁾	
Non-performance-based Components	Performance-based components		
Base remuneration incl. ancillary benefits	Short-term variable remuneration (bonus)	Long-term share-based remuneration (stock awards)	Pension commitments
Paid annually		Vesting period of 4 years	Credited annually

1) Percentage split in the event of 100% target achievement based on the remuneration of the Chairman of the Managing Board. The percentages for the non-performance-based and performance-based components may vary according to target achievement.

Non-performance-based Component (Including Ancillary Benefits)

The Managing Board members receive fixed base remuneration, which is paid in the form of a monthly salary. Base remuneration is €900,000 per year for the Chairman of the Managing Board and €600,000 each per year for the remaining members of the Managing Board. The Managing Board members are also awarded non-monetary benefits and ancillary benefits, such as the provision of a company car, contributions to insurance policies, the reimbursement of certain legal and tax advisory expenses, and accommodation costs, including any taxes incurred on these, and costs related to preventive medical examinations.

Performance-based Components

The performance-based components comprise short-term variable remuneration (bonus) and long-term share-based remuneration.

Short-term Variable Remuneration (Bonus)

The short-term variable remuneration (bonus) is dependent on the Company's business performance in the respective fiscal year just ended. At the beginning of each fiscal year, the Supervisory Board sets clearly defined targets for certain performance indicators at Group level. The target amount of the bonus (100%) is equivalent to the amount of the base remuneration, i.e., €900,000 for the Chairman of the Managing Board and €600,000 each for the remaining members of the Managing Board. The bonus is not payable if target achievement is 0%, and is capped at 200% of the base remuneration. Target achievement is measured after the end of the fiscal year. The Supervisory Board may, at its professional discretion, increase or decrease the amount of the bonus determined in accordance with the degree of target attainment by up to 20%; the adjusted bonus payment may therefore amount to a maximum of 240% of the target amount, i.e., a maximum of €2.16 million for the Chairman of the Managing Board and a maximum of €1.44 million each for the remaining members of the Managing Board. When deciding whether to make such adjustments, the Supervisory Board considers criteria which it also establishes at the beginning of the fiscal year. This adjustment option can also be used to take account of Managing Board members' individual achievements. The bonus is paid entirely in cash.

Long-term Share-based Remuneration (Stock Awards)

The long-term share-based remuneration is awarded in the form of unvested commitments to transfer OSRAM Licht AG shares (stock awards), which are subject to a vesting period (lock-up period). This vesting period ends at the close of the second day following the publication of OSRAM Licht AG's financial results in the fourth calendar year after the date of the award, and thus lasts for approximately four years. Once this vesting period has expired, the beneficiaries receive either one OSRAM Licht AG share for each stock award without them having to make any additional payment, or a corresponding cash settlement.

The monetary value of the awards granted at the start of the vesting period is based on the achievement of targets set by the Supervisory Board at the beginning of each fiscal year. In the event of 100% target achievement, the annual target monetary value of the stock awards is €1 million for the Chairman of the Managing Board and €660,000 each for the other Managing Board members. Depending on the degree of target achievement, the actual monetary value may be between 0% and 200% (cap) of the target amount, i.e., a maximum of €2 million for the Chairman of the Managing Board and a maximum of €1.32 million each for the remaining members of the Managing Board. Target achievement is measured after the end of the fiscal year. The number of stock awards granted is determined by dividing the monetary value determined once the

Supervisory Board has calculated the level of target achievement by the closing price of OSRAM Licht shares in XETRA trading on the Frankfurt Stock Exchange on the date of the award and subtracting the discounted estimated dividends over the four-year vesting period.

Upon expiration of the vesting period of approximately four years, the maximum value of the shares transferred is capped at 250% of the target amount. This corresponds to €2.5 million for the Chairman of the Managing Board and €1.65 million each for the remaining members of the Managing Board. If the cap is exceeded, the applicable number of stock awards lapse without compensation and the number of shares to be transferred is rounded down.

In the event of extraordinary unforeseen developments impacting the relevant share price, the Supervisory Board may decide to reduce the number of granted stock awards retroactively, or to only pay a cash settlement in a defined and limited amount in lieu of transferring the OSRAM Licht shares, or to suspend the transfer of shares due under the stock awards until the developments have ceased to have an impact on the share price. If a Managing Board member is guilty of breaching an obligation, the Supervisory Board has discretion to allow the stock awards to lapse without compensation, depending on the severity of the breach ('claw back').

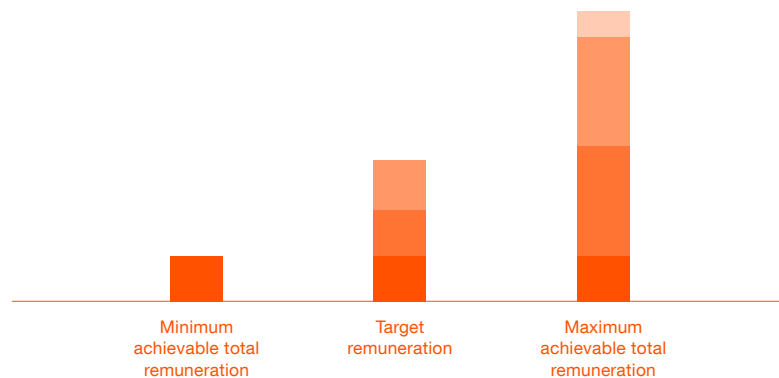
Maximum Amount of Total Remuneration

The maximum total remuneration is €6 million for the Chairman of the Managing Board and €4 million each for the remaining members of the Managing Board. The total remuneration represents the sum of the remuneration awarded for the fiscal year in question (including ancillary benefits and pension commitments but excluding the monetary value of long-term share-based remuneration) plus amounts accruing in the fiscal year concerned from share-based payment instruments whose vesting period has expired. The value of the amounts received is determined using the closing price of OSRAM Licht shares in XETRA trading on the Frankfurt Stock Exchange on the last trading day before the shares are transferred.

If the maximum amount is exceeded, the entitlement to the transfer of shares under granted stock awards is reduced and the number of shares to be transferred is rounded down. If this reduction is insufficient to bring the total remuneration payable down to below the limit, the Supervisory Board may at its professional discretion reduce other remuneration components or require the repayment of remuneration already awarded.

Range of total remuneration ¹⁾

- Long-term share-based remuneration (stock awards), monetary value upon transfer of the shares after expiry of the vesting period (max. 250% of the target amount)
- Long-term share-based remuneration (stock awards), monetary value upon allocation (0–200%)
- Short-term variable remuneration (bonus) (0–200% plus a discretionary increase or decrease of 20%)
- Base remuneration (fixed amount)



1) Based on the remuneration of the Chairman of the Managing Board. Excluding ancillary benefits and pension commitments.

Pension Commitments

Like most OSRAM Licht Group employees in Germany, the members of the Managing Board are included in the Beitragsorientierte OSRAM Altersversorgung ('BOA') defined benefit plan. Under the BOA, members of the Managing Board receive contributions that are credited to their personal pension account. The amount of these contributions is decided annually by the Supervisory Board; it is currently set at 28% of the sum of the base remuneration and target amount of the bonus. The pension commitments have vested. Members of the Managing Board are entitled to benefits under the BOA on reaching the age of 62. They may choose to receive the benefits under the BOA in the form of a pension, as a lump sum payment, or in up to twelve annual installments.

Other Remuneration System Rules

Share Ownership Guidelines

During their term of office on the Managing Board, the members of the Managing Board are obliged—in accordance with the provisions of their contracts—to hold OSRAM Licht shares of a value that is equivalent to a significant portion of their annual base compensation; the value of the shares held by the Chairman of the Managing Board must routinely exceed his current annual base remuneration by a significant degree. In the case of the Chairman of the Managing Board, this means 200% of the average annual base remuneration paid in the last four years and for each of the remaining members of the Managing Board, 100%. Evidence that this requirement has been met must be provided following a build-up phase of at least four years, and updated annually thereafter. If the value of the shareholding built up in this way falls below the required minimum level due to a decline in the price of OSRAM Licht shares, the Managing Board member will be required to acquire additional shares.

Rules in Connection with the Termination of Managing Board Membership

Managing Board contracts provide for a compensatory payment if membership of the Managing Board is terminated prematurely by mutual agreement, without good cause. The amount of this payment must not exceed the value of two years' remuneration (cap). The amount of the compensatory payment is calculated on the basis of the remaining term of the contract and the sum of the base remuneration plus the variable remuneration (bonus and monetary value of the stock awards granted) actually received for the last fiscal year before termination. It is payable in the month the Managing Board member leaves the Managing Board. In addition, a one-off contribution is made to the BOA, which is calculated based on the remaining term of the contract and the contribution made to the BOA in the previous year. The above benefits are not paid if the member's activity on the Managing Board is terminated prematurely at the member's request, or if there is good cause for the Company to terminate the employment relationship.

If a Managing Board member's contract ends during the course of his or her term of office, the short-term variable remuneration (bonus) for the current fiscal year is only granted on a pro rata basis and no long-term share-based remuneration (stock awards) is awarded. Stock awards already granted in connection with long-term share-based remuneration lapse without compensation. The same applies if the contract ends because the Managing Board member does not wish to extend his or her appointment at the end of the term of office, or if there is good cause that would have justified the appointment being revoked or the contract being terminated. However, the Supervisory Board may decide at its professional discretion, in exceptional cases, that stock awards already granted can be settled in cash on a pro rata basis (according to the portion of the vesting period that has already elapsed) at their value as of the date of departure. In any case, the severance payment will not be made before the applicable vesting period has expired. However, granted stock awards do not lapse if the contract ends due to retirement, disability, or death, or in the event of a spin-off, transfer of undertakings, or a change of activity within the Group.

In the event of a change of control (if a controlling influence over OSRAM Licht AG arises as a result of a majority voting interest, an intercompany agreement, or a merger) that leads to a material change in the position of the individual Managing Board member, the member of the Managing Board will have a special right of termination. On exercise of this right of termination, the member of the Managing Board concerned is entitled to a severance payment amounting to a maximum of two years' remuneration (cap). The calculation of the annual remuneration includes the base remuneration and the performance-based remuneration (bonus and the monetary value of the stock awards granted) in the last completed fiscal year prior to termination of the contract. Any stock awards not yet due remain unaffected. In any case, shares will not be transferred in order to settle the stock awards until the applicable vesting period has ended. There is no entitlement to a severance payment if the Managing Board member receives benefits from third parties in connection with the change of control, or if the change of control occurs within a period of twelve months prior to the Managing Board member's retirement.

Compensatory or severance payments are increased by a flat rate of 5% of the total remuneration or severance amount to cover non-monetary benefits. In addition, compensatory or severance payments are reduced by a flat rate of 15% to account for discount effects and income earned elsewhere, if the remaining term of the Managing Board member's contract was at least six months. However, this reduction only applies to the portion of the compensatory or severance payments that was calculated without taking account of the first six months of the remaining term of the Managing Board member's contract.

D&O Insurance and Criminal Liability Insurance

D&O insurance is taken out for governing body members and certain employees of the OSRAM Licht Group. This insurance, which is taken out for a period of one year in each case, covers the personal liability of these people for financial losses arising in connection with the performance of their duties. The members of the Managing Board of OSRAM Licht AG are also the managing directors of OSRAM GmbH. Liability risks

arising from this activity are also covered. The OSRAM D&O insurance policy provides for a deductible for the Managing Board of OSRAM Licht AG, which meets the requirements of the AktG.

The members of the Managing Board are also covered by the criminal liability insurance that the OSRAM Licht Group has taken out for its employees and governing body members. This insurance covers any lawyers' fees and court costs arising in connection with their defense in criminal or administrative offense proceedings.

c.4.2.2 Remuneration of OSRAM Licht AG Managing Board Members in Fiscal Year 2019

Setting of Targets

After assessing the achievement of the targets that it had set before the beginning of fiscal year 2019, the Supervisory Board of OSRAM Licht AG established the amounts of short-term variable remuneration (bonus), the stock awards to be granted as long-term share-based remuneration, and the contributions to the pension plan (BOA) at its meeting on November 11, 2019, as follows:

Short-term Variable Remuneration (Bonus)

For the short-term variable compensation (bonus) payable to the members of the Managing Board for fiscal year 2019, the Supervisory Board defined concrete targets at Group level for organic revenue growth, the EBITDA margin, and free cash flow. The targets are equally weighted. Organic revenue growth is defined as the change in the Company's revenue, adjusted for portfolio and currency effects. EBITDA is defined as earnings before net financial income or expense, net income (loss) from investments accounted for using the equity method, taxes, depreciation, and amortization of intangible assets. The EBITDA margin is defined as EBITDA divided by revenue. Free cash flow is calculated on the basis of the net cash provided by/used in operating activities, less cash received/paid in connection with additions to intangible assets and property, plant, and equipment. The Supervisory Board also specified that the EBITDA and free cash flow financial indicators should be adjusted for significant transformation costs arising from the changes to operational structures under ongoing programs and for significant M&A activities when determining the level of target achievement. No other adjustments were made. Finally, before the start of the fiscal year, the Supervisory Board decided to base its decision to increase or decrease the variable remuneration paid by up to 20% on the attainment of defined interim targets in specific strategic areas.

When setting the targets, the Supervisory Board took into consideration the plans for the fiscal year submitted by the Managing Board, performance compared to the results for the previous fiscal year, macroeconomic conditions, and the situation in the lighting industry. The following table shows target achievement in respect of short-term variable remuneration (bonus):

Target Achievement of Short-term Variable Remuneration (Bonus)

Target	33%	33%	33%
	Organic revenue growth ¹⁾	EBITDA margin ¹⁾	Free cash flow ¹⁾
Value for 100% target achievement ²⁾	1.7%	12.9%	€155.7 million
Actual value for fiscal year 2019	(13.1)%	8.8%	€92.5 million
Target achievement	0.0%	0.0%	51.4%
Overall target achievement	17.1%		

1) Adjusted for remuneration-related special items.

2) The target achievement rates of 0% and 200% are defined as the following deviations above or below the value for 100% target achievement: 6 percentage points for organic revenue growth, 4 percentage points for the EBITDA margin, and €130 million for free cash flow.

Based on the results for fiscal year 2019, the Supervisory Board decided at its professional discretion not to adjust the amounts to be paid out on the basis of this target achievement.

Long-term Share-based Remuneration

As in previous years, the Supervisory Board of OSRAM Licht AG decided for fiscal year 2019 to adjust the amount of the long-term share-based remuneration in line with the average earnings per share (EPS) of the OSRAM Licht Group over the past three fiscal years. The average EPS for fiscal year 2019 was €0.43, representing target achievement of 0%. The members of the Managing Board will therefore receive no OSRAM Stock Awards for fiscal year 2019.

The following table shows target achievement in respect of long-term share-based remuneration:

Target Achievement of Long-term Share-based Remuneration

Target	Average earnings per share in fiscal years 2017 to 2019
Value for 100% target achievement ¹⁾	€1.93
Actual value for fiscal year 2019	€0.43
Target achievement	0.0%

1) The target achievement rates of 0% and 200% are defined as €1.50 above or below the value for 100% target achievement.

Total Remuneration

Based on the above amounts determined by the Supervisory Board, the total remuneration (excluding pension commitments) of the members of the OSRAM Licht AG Managing Board who were in office during fiscal year 2019 amounted in total to €2.7 million (previous year: €5.2 million). Of this total remuneration, €2.7 million (previous year: €3.5 million) was attributable to the cash component and €0 (previous year: €1.7 million) to the share-based remuneration.

Remuneration of the Members of the Managing Board for Fiscal Year 2019 Pursuant to Section 314 of the HGB and GAS 17

The total remuneration set for the members of the Managing Board in office during fiscal year 2019 in accordance with section 314 of the HGB and GAS 17 is as follows:

Remuneration of the Members of the Managing Board Pursuant to Section 314 of the HGB and GAS 17

in €

	Managing Board members in office as of September 30, 2019					
	Dr. Olaf Berlien Chairman of the Managing Board		Ingo Bank Chief Financial Officer		Dr. Stefan Kampmann Chief Technology Officer	
	Fiscal 2019	Fiscal 2018	Fiscal 2019	Fiscal 2018	Fiscal 2019	Fiscal 2018
Non-performance-based components						
Fixed remuneration (base remuneration)	900,000	900,000	600,000	600,000	600,000	600,000
Other benefits ¹⁾	182,336	145,433	40,240	88,242	45,971	76,277
Total	1,082,336	1,045,433	640,240	688,242	645,971	676,277
Performance-based components						
Excluding long-term incentive effect, not share-based Short-term variable remuneration (bonus)	154,080	452,880	102,720	301,920	102,720	301,920
Including long-term incentive effect, share-based Long-term variable remuneration: OSRAM stock awards (vesting period of 4 years) ²⁾³⁾	0	737,125	0	486,493	0	486,493
Total remuneration	1,236,416	2,235,438	742,960	1,476,654	748,691	1,464,690

1) Ancillary benefits include expenses and non-cash benefits such as the provision of company cars, contributions to insurance policies, the reimbursement of legal and tax advisory expenses, accommodation and moving costs, and costs related to preventive medical examinations.

2) The expense arising from the stock awards for members of the Managing Board of OSRAM Licht AG recognized in fiscal years 2019 and 2018 in accordance with IFRS amounted to €1.2 million for fiscal year 2019 and €1.4 million for fiscal year 2018. The expense attributable to each member of the Managing Board in fiscal year 2019 was therefore as follows: Dr. Olaf Berlien €0.7 million (previous year: €0.8 million), Ingo Bank €0.3 million (previous year: €0.3 million), and Dr. Stefan Kampmann €0.2 million (previous year: €0.3 million).

3) The fair value of one stock award as of the grant date, based on the data in the table, was not calculated as no stock awards were granted to members of the Managing Board for fiscal year 2019 (previous year: €28.91). Based on target achievement of 100%, the monetary values for the members of the Managing Board in office as of September 30, 2019, were as follows: Dr. Olaf Berlien €1.0 million (previous year: €1.0 million), Ingo Bank €0.66 million (previous year: €0.66 million), and Dr. Stefan Kampmann €0.66 million (previous year: €0.66 million).

Remuneration of the Members of the Managing Board for Fiscal Year 2019 Pursuant to the German Corporate Governance Code

The total remuneration for the members of the Managing Board for fiscal year 2019 in accordance with section 4.2.5 of the German Corporate Governance Code is presented below. It includes the benefits granted for the reporting year and the benefits received in the reporting year.

Benefits Granted

The following table shows the benefits granted for fiscal year 2019, including the ancillary benefits. The minimum and maximum amounts for the performance-based remuneration components are also presented. Furthermore, the performance-based remuneration is broken down into one-year remuneration (bonus) and multi-year remuneration (stock awards). Unlike in the presentation of remuneration pursuant to section 314 of the HGB and GAS 17, the one-year remuneration component (bonus) is shown with the value for 100% target achievement. For the multi-year remuneration (stock awards), the fair value at the time of grant is shown. These stock awards, in the form of shares in OSRAM Licht AG, are only transferred to the Managing Board members once the vesting period of roughly four years has expired. The service cost pursuant to IAS 19 is also factored into the total remuneration.

Benefits Granted

in €

	Managing Board members in office as of September 30, 2019			
	Fiscal 2019	Fiscal 2018	Fiscal 2019 (Min.)	Fiscal 2019 (Max.)
Dr. Olaf Berlien Chairman of the Managing Board				
Non-performance-based components				
Fixed remuneration (base remuneration)	900,000	900,000	900,000	900,000
Ancillary benefits ¹⁾	182,336	145,433	182,336	182,336
Total	1,082,336	1,045,433	1,082,336	1,082,336
Performance-based components				
Excluding long-term incentive effect, not share-based Short-term variable remuneration (bonus)	900,000	900,000	0	2,160,000
Including long-term incentive effect, share-based Long-term variable remuneration: OSRAM stock awards (vesting period of 4 years) ^{2) 3)}	0	737,125	0	2,500,000
Total	1,982,336	2,682,558	1,082,336	5,742,336
Service costs	498,338	506,032	498,338	498,338
Total remuneration	2,480,674	3,188,590	1,580,674	6,240,674
Ingo Bank Chief Financial Officer				
Non-performance-based components				
Fixed remuneration (base remuneration)	600,000	600,000	600,000	600,000
Ancillary benefits ¹⁾	40,240	88,242	40,240	40,240
Total	640,240	688,242	640,240	640,240
Performance-based components				
Excluding long-term incentive effect, not share-based Short-term variable remuneration (bonus)	600,000	600,000	0	1,440,000
Including long-term incentive effect, share-based Long-term variable remuneration: OSRAM stock awards (vesting period of 4 years) ^{2) 3)}	0	486,493	0	1,650,000
Total	1,240,240	1,774,734	640,240	3,730,240
Service costs	332,627	337,693	332,627	332,627
Total remuneration	1,572,867	2,112,427	972,867	4,062,867
Dr. Stefan Kampmann Chief Technology Officer				
Non-performance-based components				
Fixed remuneration (base remuneration)	600,000	600,000	600,000	600,000
Ancillary benefits ¹⁾	45,971	76,277	45,971	45,971
Total	645,971	676,277	645,971	645,971
Performance-based components				
Excluding long-term incentive effect, not share-based Short-term variable remuneration (bonus)	600,000	600,000	0	1,440,000
Including long-term incentive effect, share-based Long-term variable remuneration: OSRAM stock awards (vesting period of 4 years) ^{2) 3)}	0	486,493	0	1,650,000
Total	1,245,971	1,762,770	645,971	3,735,971
Service costs	332,098	337,342	332,098	332,098
Total remuneration	1,578,069	2,100,112	978,069	4,068,069

1) Ancillary benefits include expenses and non-cash benefits such as the provision of company cars, contributions to insurance policies, the reimbursement of legal and tax advisory expenses, accommodation and moving costs, and costs related to preventive medical examinations.

2) The expense arising from the stock awards for members of the Managing Board of OSRAM Licht AG recognized in fiscal years 2019 and 2018 in accordance with IFRS amounted to €1.2 million for fiscal year 2019 and €1.4 million for fiscal year 2018. The expense attributable to each member of the Managing Board in fiscal year 2019 was therefore as follows: Dr. Olaf Berlien €0.7 million (previous year: €0.8 million), Ingo Bank €0.3 million (previous year: €0.3 million), and Dr. Stefan Kampmann €0.2 million (previous year: €0.3 million).

3) The fair value of one stock award as of the grant date, based on the data in the table, was not calculated as no stock awards were granted to members of the Managing Board for fiscal year 2019 (previous year: €28.91). Based on target achievement of 100%, the monetary values for the members of the Managing Board in office as of September 30, 2019, were as follows: Dr. Olaf Berlien €1.0 million (previous year: €1.0 million), Ingo Bank €0.66 million (previous year: €0.66 million), and Dr. Stefan Kampmann €0.66 million (previous year: €0.66 million).

Benefits Received

As some components of the remuneration granted to the members of the Managing Board for a particular fiscal year are not paid in that same fiscal year, a separate table is used to show how much they actually receive in the fiscal year. The non-performance-based remuneration and the performance-based one-year remuneration (bonus) are shown as being received in the year in which they are granted. The performance-based multi-year remuneration (stock awards) is deemed to have been received at the time and in the amount that are applicable for the purposes of German tax law. The service cost constitutes the pension contributions made; strictly speaking, it is not an amount that is received.

Benefits Received

in €

	Managing Board members in office as of September 30, 2019					
	Dr. Olaf Berlien Chairman of the Managing Board		Ingo Bank Chief Financial Officer		Dr. Stefan Kampmann Chief Technology Officer	
	Fiscal 2019	Fiscal 2018	Fiscal 2019	Fiscal 2018	Fiscal 2019	Fiscal 2018
Non-performance-based components						
Fixed remuneration (base remuneration)	900,000	900,000	600,000	600,000	600,000	600,000
Other benefits ¹⁾	182,336	145,433	40,240	88,242	45,971	76,277
Total	1,082,336	1,045,433	640,240	688,242	645,971	676,277
Performance-based components						
Excluding long-term incentive effect, not share-based Short-term variable remuneration (bonus)	154,080	452,880	102,720	301,920	102,720	301,920
Including long-term incentive effect, share-based Long-term variable remuneration: OSRAM stock awards (vesting period of 4 years) ^{2),3)}	0	0	0	0	0	0
Total	1,236,416	1,498,313	742,960	990,162	748,691	978,197
Service Cost	498,338	506,032	332,627	337,693	332,098	337,342
Total remuneration	1,734,754	2,004,345	1,075,587	1,327,855	1,080,789	1,315,539

1) Ancillary benefits include expenses and non-cash benefits such as the provision of company cars, contributions to insurance policies, the reimbursement of legal and tax advisory expenses, accommodation and moving costs, and costs related to preventive medical examinations.

Additional Disclosures on Share-based Payment Instruments in Fiscal Year 2019

The stock awards held by members of the Managing Board who were in office during fiscal year 2019 changed as follows in fiscal year 2019:

Stock Awards Held by Current Members of the Managing Board

Quantity

	Beginning of fiscal year 2019	Granted in fiscal year 2019 ¹⁾	Transferred in fiscal year 2019 after expiry of vesting period	Lapsed in fiscal year 2019	End of fiscal year 2019
	Unvested stock awards	Stock awards	Stock awards	Stock awards	OSRAM Stock awards
Managing Board members in office as of September 30, 2019					
Dr. Olaf Berlien	70,815	25,499	0	0	96,314
Ingo Bank	18,672	16,829	0	0	35,501
Dr. Stefan Kampmann	15,586	16,829	0	0	32,415
Total	105,073	59,157	0	0	164,230

1) The fair value at the grant date of the stock awards granted in November 2018 for fiscal year 2018 was €28.91 per share awarded (previous year: €60.27).

Pension Commitments

The amount of the contributions to the Beitragsorientierte OSRAM Altersversorgung ('BOA') defined benefit plan is determined by the Supervisory Board on an annual basis. The contributions to the BOA are credited to the plan members' personal pension accounts in the January following the end of the fiscal year concerned, with a value date of January 1. Interest is credited (guaranteed interest) to the pension account on January 1 each year until the pension becomes payable. For the work performed by the members of the Managing Board during fiscal year 2019, contributions of €1.2 million were made to the BOA and credited to the individual pension accounts based on a Supervisory Board resolution dated November 11, 2019 (previous year: €1.2 million).

The following overview shows, among other things, the contributions (additions) made to the BOA for fiscal year 2019 for the Managing Board members who were in office during fiscal year 2019:

Overview of Pension Commitments to Members of the Managing Board

in €

	Total contribution for		Present value of all pension commitments excluding deferred compensation ¹⁾	
	Fiscal 2019	Fiscal 2018	Fiscal 2019	Fiscal 2018
Managing Board members in office as of September 30, 2019				
Dr. Olaf Berlien	504,000	504,000	2,492,981	1,844,186
Ingo Bank	336,000	336,000	1,083,340	686,615
Dr. Stefan Kampmann	336,000	336,000	1,131,310	740,201

1) As of September 30, 2018/2019.

As of September 30, 2019, the present value of all pension commitments for former members of the Managing Board of OSRAM Licht AG and their dependents totaled €5.4 million (previous year: €4.9 million).

Other Information

In fiscal year 2019, members of the Managing Board did not receive any advances or loans from the Company.

c.4.2.3 Remuneration of Members of the Supervisory Board

The remuneration of the members of the Supervisory Board is governed by section 12 of the Articles of Association of OSRAM Licht AG, which stipulates the following base remuneration: €120 thousand for the Chairman of the Supervisory Board, €100 thousand for each Deputy Chairman of the Supervisory Board, and €65 thousand for the other Supervisory Board members. The Chairman of the Audit Committee receives an additional €50 thousand, and each further member of the Audit Committee €15 thousand; the Chairman of the Executive Committee receives €20 thousand, and each further member of the Executive Committee €10 thousand. The Chairman of the Strategy and Technology Committee receives an additional €15 thousand, and each further member €10 thousand. However, the additional remuneration for activities on Supervisory Board committees is limited to a total of €50 thousand for the Chairman of the Audit Committee, €22.5 thousand for the Chairman of any other committee in respect of which remuneration is paid, and €15 thousand for all other members of the Supervisory Board.

If a Supervisory Board member does not participate in a Supervisory Board meeting, his or her total remuneration is reduced. The reduction is applied to one-third of the total remuneration. This third is reduced by a percentage equal to the proportion of meetings not attended by the Supervisory Board member in question (number of Supervisory Board meetings not attended by the Supervisory Board member relative to the total number of Supervisory Board meetings in that fiscal year). Supervisory Board members who do not belong to the Supervisory Board or a committee for a full fiscal year, or who do not hold the position of chairman for a full year, receive the remuneration on a pro rata basis, with parts of months being rounded up to full months. Each member receives an attendance fee of €500 for attending meetings of the full Supervisory Board or the committees.

Based on these provisions, the remuneration in fiscal year 2019 is as follows:

Remuneration of Members of the Supervisory Board

in €

	Fiscal year 2019				Fiscal year 2018			
	Base remuneration	Additional remuneration for activities on committees ²⁾	Attendance fees	Total remuneration	Base remuneration	Additional remuneration for activities on committees ²⁾	Attendance fees	Total remuneration
Supervisory Board members of OSRAM Licht AG in office as of September 30, 2019¹⁾								
Peter Bauer	116,364	21,818	9,000	147,182	120,000	22,500	7,500	150,000
Klaus Abel ^{3) 4)}	41,667	8,333	4,500	54,500	–	–	–	–
Dr. Roland Busch	93,939	14,091	7,000	115,030	95,238	14,286	6,500	116,024
Dr. Christine Bortenlänger	63,030	14,545	7,500	85,076	65,000	15,000	6,000	86,000
Dr. Margarete Haase	65,000	50,000	8,000	123,000	43,333	33,333	3,500	80,167
Frank H. Lakerveld	65,000	10,000	7,500	82,500	65,000	10,000	5,500	80,500
Arunjai Mittal	65,000	10,000	7,500	82,500	10,833	–	500	11,333
Alexander Müller ³⁾	65,000	15,000	8,000	88,000	65,000	15,000	6,000	86,000
Ulrike Salb	65,000	15,000	8,000	88,000	65,000	15,000	6,000	86,000
Irene Schulz ^{3) 5)}	65,000	15,000	8,000	88,000	61,905	14,286	5,500	81,690
Irene Weininger ³⁾	65,000	10,000	7,500	82,500	65,000	10,000	5,500	80,500
Thomas Wetzel ³⁾	65,000	15,000	9,500	89,500	65,000	15,000	7,000	87,000
Former Supervisory Board members of OSRAM Licht AG								
Michael Knuth ³⁾	66,667	13,333	4,500	84,500	100,000	15,000	7,500	122,500
Dr. Werner Brandt	–	–	–	–	16,250	12,500	2,000	30,750
Prof. Dr. Lothar Frey	–	–	–	–	48,750	7,500	4,000	60,250
Total	901,667	212,121	96,500	1,210,288	886,309	199,405	73,000	1,158,714

- 1) Peter Bauer, Klaus Abel (from May 7, 2019), Dr. Roland Busch, Dr. Christine Bortenlänger, Dr. Margarete Haase, Michael Knuth (until May 7, 2019), Frank H. Lakerveld, Arunjai Mittal, Irene Schulz, and Thomas Wetzel were also members of the Supervisory Board of OSRAM GmbH in fiscal year 2019. The Chairman of the Supervisory Board of OSRAM GmbH receives annual remuneration of €7,500 and all other members receive €5,000. No additional remuneration is paid for activities on the committees of the OSRAM GmbH Supervisory Board. The members of the Supervisory Board are paid an attendance fee of €500 for each Supervisory Board meeting in which they participate. However, there is no entitlement if the member of the Company's Supervisory Board is also a member of the Supervisory Board of OSRAM Licht AG and, on the day of the meeting in question, is already entitled to an attendance fee for participating in a meeting of the OSRAM Licht AG Supervisory Board or Supervisory Board committee. In the event of changes in the Supervisory Board of OSRAM GmbH, the remuneration is paid on a pro rata basis, with parts of months being rounded up to full months. If a Supervisory Board member does not participate in a Supervisory Board meeting, one-third of the total remuneration due is reduced by a percentage equal to the number of meetings the Supervisory Board member did not attend relative to the total number of meetings held in the fiscal year. The aforementioned members of the Supervisory Board of OSRAM Licht AG received the following base remuneration for their activities on the OSRAM GmbH Supervisory Board: Peter Bauer as Chairman of the Supervisory Board of OSRAM GmbH €7,500, Klaus Abel €2,083, Dr. Roland Busch €3,333, Dr. Christine Bortenlänger €4,444, Arunjai Mittal €4,444, Michael Knuth €3,333, and all other members of the Supervisory Board €5,000.
- 2) The following people each received additional remuneration for their activities on committees in fiscal years 2018 and 2019: Peter Bauer as Chairman of the Supervisory Board of OSRAM Licht AG, of the Executive Committee, and of the Strategy and Technology Committee; Klaus Abel as Deputy Chairman of the Supervisory Board and a member of the Executive Committee and the Strategy and Technology Committee (from May 7, 2019); Dr. Christine Bortenlänger as a member of the Audit Committee; Dr. Roland Busch as Deputy Chairman of the Supervisory Board and a member of the Executive Committee and Audit Committee; Dr. Margarete Haase as Chair of the Audit Committee (from February 20, 2018); Michael Knuth as Deputy Chairman of the Supervisory Board and a member of the Executive Committee and the Strategy and Technology Committee (until May 7, 2019); Frank H. Lakerveld as a member of the Strategy and Technology Committee; Arunjai Mittal as a member of the Strategy and Technology Committee (from October 1, 2018); Alexander Müller, Ulrike Salb, and Irene Schulz as members of the Audit Committee; Irene Weininger as a member of the Strategy and Technology Committee; Thomas Wetzel as a member of the Executive Committee and the Strategy and Technology Committee. This remuneration was paid on a pro rata basis where they assumed or ended their activities on the committees during the fiscal year in question. No remuneration is paid in respect of membership of the other Supervisory Board committees, including the new ones set up in fiscal year 2019 (Remuneration Committee and Special Committee).
- 3) The employee representatives on the Supervisory Board, who represent the employees in accordance with section 3(1) no. 1 of the MitbestG, and the trade union representatives on the Supervisory Board have stated that they pay their remuneration to the Hans Böckler Foundation, in accordance with the guidelines of the German Confederation of Trade Unions.
- 4) Mr. Michael Knuth stepped down as a member of the Supervisory Board with effect from the end of the Supervisory Board meeting on May 7, 2019. Mr. Knuth was succeeded on the Supervisory Board by his elected replacement Mr. Klaus Abel.
- 5) Ms. Irene Schulz stepped down as a member of the Supervisory Board with effect from the end of September 30, 2019. Ms. Schulz was succeeded on the Supervisory Board by her elected replacement Ms. Olga Redda.

Members of the Supervisory Board did not receive any loans or advances from the Company in fiscal year 2019.

c.4.3 Corporate Governance Declaration

The corporate governance declaration for fiscal year 2019 is made in accordance with sections 289f and 315d of the HGB. According to section 317(2) sentence 6 of the HGB, the disclosures in accordance with section 289f(2) and (5) and 315d of the HGB should not be included in the audit.

c.4.3.1 Declaration of Conformity with the German Corporate Governance Code

On September 24, 2019, the Managing Board and Supervisory Board of OSRAM Licht AG issued the following declaration of conformity with the German Corporate Governance Code in accordance with section 161 of the AktG:



“OSRAM Licht AG complies with all of the recommendations of the German Corporate Governance Code (the ‘Code’) in the version dated February 7, 2017, published by the Federal Ministry of Justice in the official section of the Bundesanzeiger (Federal Gazette), and will also comply with these in the future.

In the period since the last declaration of conformity dated September 25, 2018, was issued, OSRAM Licht AG has complied with all the recommendations of the Code in the version dated February 7, 2017.

Munich, September 24, 2019

OSRAM Licht AG

The Managing Board The Supervisory Board”



c.4.3.2 Disclosures on Corporate Governance Practices

Suggestions in the Code

OSRAM Licht AG also voluntarily complies with the non-mandatory suggestions in the German Corporate Governance Code in the version dated February 7, 2017 (the ‘Code’), with the following exceptions:

In contrast to the suggestion contained in section 2.3.2 of the Code, no proxy will be reachable during the Annual General Meeting of OSRAM Licht AG by shareholders who are not present or represented at the Annual General Meeting.

Contrary to the suggestion contained in section 3.7(3) of the Code, the Managing Board did not convene any Extraordinary General Meetings in relation to the two voluntary public takeover offers for OSRAM Licht AG’s shares that were published during the reporting year.

Company Values, Business Conduct Guidelines, and Compliance Management System

Technical performance, innovation, quality, reliability, and an international reach are the basis for OSRAM’s excellent reputation as one of the leading companies in the lighting industry. We will continue to build on our outstanding achievements and high ethical standards in the future. We believe that sustainable business success can be achieved only through lawful and responsible practices.

Our Business Conduct Guidelines form the legal and ethical framework within which we do business. They contain corporate governance practices that are applied above and beyond the legal requirements, as well as basic principles and rules for our conduct both internally and toward our external partners and the public. The guidelines demonstrate how we meet our ethical and legal responsibilities as a company. They also express the values of our corporate culture: openness, risk-taking, empowerment, ability to change, and passion for performance. The Business Conduct Guidelines also set out principles on how to manage employees. Specifically, managers are obliged to select employees carefully (duty of selection), give precise, complete, and binding instructions to employees (duty to give instructions), ensure the continuous monitoring of compliance

with the law (duty of monitoring), and communicate to their employees the importance of integrity and compliance with the law in everyday business and make it clear to them that violations of the law are unacceptable and will result in disciplinary measures (duty of communication).

The Business Conduct Guidelines can be downloaded at [» http://www.osram-group.de/en/sustainability/economic/compliance](http://www.osram-group.de/en/sustainability/economic/compliance).

We have also defined four leadership principles (building talents, collaboration, entrepreneurship, and clarity), which are designed to be used as guiding principles when carrying out management duties within the Company.

The Business Conduct Guidelines are an integral element of the compliance management system in place at OSRAM. This system is aimed at fostering a corporate culture that prevents breaches of rules that would incur penalties and fines, thereby avoiding sanctions, financial loss, and reputational damage for both the Company and its employees. The compliance management system follows the methodology described in the assurance standard IDW AssS 980. Conduct rules in respect of anticorruption measures and antitrust law lie at the heart of the compliance management system due to their significance for the Group and for the fulfillment of supervisory obligations in the Company.

From an organizational perspective, the compliance management system consists of employees at the headquarters and in the regions. Around 15 employees work in this area, six of whom are based at our head office in Munich. The Chief Compliance Officer reports to the Chairman of the Managing Board. The compliance organization supports the Managing Board and Supervisory Board in meeting their statutory responsibilities and fulfilling their duties of care in terms of the appropriate and effective management of compliance risks in the Group and the related supervisory obligations. As part of its remit to supervise management functions, the Supervisory Board monitors the effectiveness and appropriateness of the compliance management system.

An important aspect of the compliance management system is training, both classroom-based and online, which is mandatory for employees at certain functional levels or in certain functional groups. OSRAM also has a number of IT-based tools for dealing with compliance-related risks. For example, we classify our business partners according to particular criteria, such as the prevalence of corruption in the country in which the partner operates. We have also established a tools-based process that defines how to handle and approve hospitality events. Our code of conduct for suppliers obliges our suppliers to comply with internationally and nationally recognized standards, such as the UN's Universal Declaration of Human Rights, the ILO's Declaration on Fundamental Principles and Rights at Work, and the OECD's Guidelines for Multinational Enterprises.

Regular communication activities are carried out to raise awareness among employees and to strengthen the compliance culture. They highlight the commitment of management to compliance and the relevance of compliance to OSRAM.

Compliance risk assessments are regularly carried out at unit level in order to identify compliance risks and make continuous improvements to the Group-wide compliance management system. Senior management conducts half-yearly controls and the compliance organization conducts yearly controls of the business as part of the internal control system.

Another element of OSRAM's compliance management system is the whistleblowing system 'Tell OSRAM', which employees and third parties can use to report breaches of compliance rules. All reports are followed up and, if there is specific evidence, internal compliance investigations are conducted. Once an investigation has been completed, we recommend measures to eliminate the deficiencies identified and we monitor their implementation. If we ascertain misconduct on the part of our employees, we take disciplinary measures under employment law if appropriate.

The compliance management system is reviewed for appropriateness, degree of implementation, and effectiveness on an ongoing basis; adjustments and refinements are made as necessary.

c.4.3.3 Description of the Working Practices of the Managing Board and the Supervisory Board, as well as of the Composition and Working Practices of the Supervisory Board Committees

The composition of the Supervisory Board committees (currently the Executive Committee, Audit Committee, Nomination Committee, Strategy and Technology Committee, Mediation Committee, and Remuneration Committee) can be found in [› Note 39 | Supervisory Board and Managing Board](#) in B.6 Notes to the Consolidated Financial Statements. This Note also reports on the composition of the Managing Board and Supervisory Board. The composition of the boards is also available online at [›› www.osram-group.com](#).

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A general description of the tasks and working practices of the Managing Board and Supervisory Board can be found under the heading 'Management and Control Structure' in [› C.4.1 Corporate Governance Report](#).

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Further details on the working practices of the Managing Board and the Supervisory Board are contained in the disclosures on the committees and in the bodies' rules of procedure. These documents are published on the Company's website at [›› www.osram-group.com](#). Related disclosures can also be found in [› C.3 Report of the Supervisory Board](#) and [› C.4.1 Corporate Governance Report](#).

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c.4.3.4 Targets for the Proportion of Women on the Managing Board, Supervisory Board, and in Senior Management

On July 26, 2017, the Supervisory Board set the target for the proportion of women on the Managing Board to be achieved by June 30, 2022, at 25%. The Supervisory Board's Executive Committee will therefore give particular consideration to female candidates for future Managing Board positions in its long-term succession planning.

On July 13, 2017, the Managing Board set the target for OSRAM Licht AG for the proportion of women in the first and second levels of management in Germany at 34% and 30% respectively. Both targets are to be reached by June 30, 2022. For the Group as a whole, the target for both levels in Germany to be achieved by June 30, 2022, was set at 17.5%. As of September 30, 2019, the proportion of women at OSRAM Licht AG was 25.0% in the first level of management and 41.7% in the second level. It should be noted that, because OSRAM Licht AG is the Group's holding company, it only has a small number of managerial positions, which means even just a small number of changes leads to significant percentage changes. As of September 30, 2019, the proportion of women across the Group in the first and second levels of management in Germany stood at 12.2% and 17.6% respectively. OSRAM CONTINENTAL GmbH is excluded from the calculation of the target figures for the Group as a whole due to the different governance structures.

On May 2, 2017, the Supervisory Board decided with regard to its composition targets [› C.4.1 Corporate Governance Report](#) that it would aim for its members to have experience in a variety of professions, as well as international experience, and, in particular, for both genders to be adequately represented in order to ensure the diversity of its membership. In accordance with the requirements of section 96(2) sentence 1 of the AktG, at least 30% of Supervisory Board members must be women and at least 30% must be men. The fulfillment of these quotas is regarded as a separate responsibility for the shareholder representatives and the employee representatives pursuant to section 96(2) sentence 3 of the AktG. As of September 30, 2019, five of the Company's Supervisory Board members were female, of whom three were employee representatives. The minimum quota of 30% pursuant to section 96(2) sentence 1 of the AktG is thus met by both the employee and shareholder representatives.

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C.5

Non-financial Group Report

c.5.1 About this Report

This report is the non-financial report for the OSRAM Licht Group for fiscal year 2019, produced in accordance with sections 315b and 315c in conjunction with sections 289c to 289e of the *Handelsgesetzbuch* (HGB—German Commercial Code).

Whereas the annual sustainability report for the OSRAM Licht Group follows the standards of the Global Reporting Initiative (GRI), no framework is used for this non-financial Group report. This is due to the different definitions of materiality presented in the CSR-Richtlinie-Umsetzungsgesetz (CSR-RUG—German CSR Directive Implementation Act) and the GRI. However, we are guided by the definitions offered by the GRI framework for this report, for example for the definitions of key performance indicators.

The non-financial Group report covers key topics that are required to understand the course of business, business performance, and the position of the Company as well as the impact of its operational activities on non-financial aspects. A materiality analysis is used to help define the topics. Internal experts from all business units and relevant corporate functions evaluate the possible topics with regard to their business relevance and potential impacts, particularly when these impacts would be negative. The results are then consolidated in a workshop, validated, and approved by the Managing Board. The following key topics have been identified: energy efficiency, greenhouse gases and climate change, raw materials and substances, human rights, fair working conditions, occupational health and safety, people development, employee satisfaction and employer attractiveness, product safety, protection and security of personal data, customer relationships, and combating corruption and bribery.

The analysis described above was last carried out in fiscal year 2018. In fiscal year 2019, a review was conducted to determine whether the materiality analysis needed to be updated or modified due to any significant changes to key influencing factors both inside and outside the Company. The review showed that no significant changes had occurred that would be relevant to the business or have any significant negative impacts.

Unless otherwise indicated, all figures refer to the continuing operations of the OSRAM Licht Group¹⁾. As of September 30, 2019, OSRAM reported the North American luminaire service business, which was sold in the second quarter of fiscal year 2019, and the European luminaires business as a discontinued operation [▶ A.2.2.3 Other Significant Events Responsible for the Course of Business](#). The prior-year figures have been restated accordingly and refer to the continuing operations of the OSRAM Licht Group unless otherwise indicated. As communicated in the 2018 non-financial Group report, this report—unless otherwise indicated—includes OSRAM CONTINENTAL.

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The non-financial report for the OSRAM Licht Group for fiscal year 2019 is subject to review by the Supervisory Board of OSRAM Licht AG. It has also been reviewed by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft on behalf of the Supervisory Board in order to obtain limited assurance in accordance with the International Standard on Assurance Engagement (ISAE) 3000 (revised).

c.5.2 Business Model

The OSRAM Licht Group and its business model are described in sections [▶ A.1.1.1 Business Model](#) and [▶ A.1.1.3 Organization and Reporting Structure](#) in the combined management report.

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1) OSRAM Licht AG and its subsidiaries; associates are not included.

c.5.3 Non-financial Risks

Our business activities and the relationships connected to those activities have the potential to impact negatively on the environment, employees, and society. In fiscal year 2019, non-financial risks were established for the first time as part of the Company-wide survey, analysis, and follow-up of risks and opportunities by risk management and integrated into risk reporting. No risk was identified that is very likely to have a serious negative impact on non-financial aspects.

c.5.4 Environmental Aspects

As a global manufacturer, we are aware of our responsibility toward the environment and climate protection.

With regard to environmental aspects, the following topics were identified as key to the OSRAM Licht Group in the materiality analysis described in [C.5.1 About this Report](#) and in consultation with the Managing Board:

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- Energy efficiency,
- Greenhouse gases and climate change, and
- Raw materials and substances.

As an industrial company, we consume natural resources and emit greenhouse gases during production. In order to fulfill our responsibility, we are committed to environmental management practices that conserve resources and to developing innovative, energy-efficient products.

For example, all production facilities and the Group headquarters maintain environmental and energy management systems that are certified to the international standard ISO 14001, while all European locations are also certified to ISO 50001. As part of its environmental reporting, OSRAM collects data on indicators such as energy consumption and CO₂ emissions. The data covers more than 99% of our environmental impacts²⁾ and the locations at which a total of 89% of all our employees are based.

Overall responsibility on the Managing Board for environmental protection and occupational health and safety within the OSRAM Group lies with the Chief Technology Officer (CTO), who delegates tasks and managerial authority to the head of the corporate Environmental Protection, Health, and Safety department (EHS). At regular intervals, the EHS department reports directly to the Managing Board on significant developments.

The management team of OSRAM CONTINENTAL does not formally delegate responsibility for environmental protection and occupational health and safety to a department. The operational implementation is the responsibility of EHS management at OSRAM CONTINENTAL.

EHS coordinates environmental rules and guidelines, monitors performance, and continuously improves the environmental management system. In addition to the Group's overarching EHS policy, it issues guidelines that apply across the Company and cover industrial and product-related environmental protection, occupational health and safety, the transportation of hazardous goods, and fire safety. These guidelines clearly state that compliance with environmental laws and regulations at local, regional, and global level is mandatory.

c.5.4.1 Energy Efficiency

Relevance

In the face of climate change, it is OSRAM's responsibility to optimize the energy efficiency of its business. As an industrial company, OSRAM uses both primary and secondary energy, with electricity and natural gas the most important sources of energy. Of particular relevance are the production facilities, followed by the Group headquarters and larger development centers. Increasing the energy efficiency of our business also helps to reduce costs.

2) Estimates are made on the basis of energy consumption, which in the context of OSRAM's environmental impact is seen as the most relevant metric here.

In addition to these optimization efforts in our manufacturing operations, OSRAM products and solutions can also help to reduce our customers' energy consumption, related emissions, and energy costs. At the same time they can make a contribution to climate protection. Improving the energy efficiency of our products is therefore a key criterion in our customers' purchasing decisions and satisfaction.

Guidelines, Responsibilities & Structures, and Processes

OSRAM's Environmental Protection, Health, and Safety (EHS) department has the managerial authority to issue environmental protection guidelines, formulates policies that apply across the Group, and regularly checks that these are adhered to [C.5.4 Environmental Aspects](#). Our business model dictates that responsibility for implementation of these central EHS guidelines lies with the business units themselves. Each business unit is also responsible for ensuring that its products are designed in an environmentally sustainable way and that energy is used efficiently both in production and when products are being used.

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Group headquarters as well as all production and development locations that consume more than 1,400 megawatt-hours (MWh) per year are pursuing energy efficiency programs in order to not only reduce their impact on the environment but also keep production costs competitive. The worldwide EHS management system controls energy use in our production processes. An energy management system is mandatory for the relevant OSRAM locations. This includes assessment of regulatory requirements and of potential improvement measures.

To operate our production facilities, we generally utilize an energy mix that is both economical and environmentally friendly. OSRAM does not yet distinguish between renewable and non-renewable energy for measurement and reporting purposes. In Germany, however, we can report the amount of electricity that we obtain from renewable energy sources. Relative consumption targets are set annually at location level and aggregated into a specific global target (MWh electricity used per €1 million in revenue) for energy consumption using the budgeted figures for production and revenue. At Group level, OSRAM monitors and reviews progress toward the targets as part of the quarterly reporting cycle and the energy efficiency reviews conducted with the operational heads of the business units. We do not report on absolute targets due to our ambitions for long-term growth and the potential expansion of manufacturing capacity connected to this and due to our portfolios' shift toward products with greater vertical integration. Instead, we set our targets according to the ratio of total energy used in MWh to revenue earned. The specific metric used—MWh electricity used per €1 million in revenue—is therefore comparable over time.

We want to offer our customers transparency when it comes to improvements to the energy efficiency of OSRAM products. OSRAM conducts lifecycle assessments (LCAs) on selected products that are representative of product families and makes the results of these assessments, which are based on the ISO 14040 and 14044 environmental management standards, available to our customers and the public on the Company's website. These activities cover the majority of OSRAM's product portfolio. Across all product families, it is evident that the phase of the lifecycle in which the product is being used by the customer has the greatest impact on the environment.

Objectives

Through its energy efficiency initiatives, OSRAM is striving for continual improvement at its locations.

The OSRAM Licht Group's target for fiscal year 2019 was 194 MWh per €1 million in revenue, slightly higher than the previous year's level of 191 MWh per €1 million in revenue. This reflected the further expansion of our semiconductor production locations, in particular. We are now achieving a greater, if more energy-intensive, degree of added value here than in other business areas. The optimal energy efficiency of the new factories will only be reached at high volumes.

In the medium term, we aim to continually reduce the aforementioned specific energy consumption across the Group. This will require the current market environment for our core business to stabilize, so that we can run our production facilities at full capacity and thus with maximum energy efficiency.

Action Taken, Results, and Key Performance Indicators

At 703,600 MWh, OSRAM's energy consumption in fiscal year 2019 was slightly lower than the prior year. While consumption at our locations in Wuxi (China) and Kulim (Malaysia) was higher due to the expansion of production, the absolute KPIs were lower than the previous year at almost all locations. This is mainly due to scaled-down production following a drop in demand.

Energy savings were again achieved in the fiscal year under review by means of a large number of efficiency measures at various locations. Here are some examples:

- In Monterrey (Mexico), small mobile air compressors were used instead of the energy-intensive central supply in production areas with low demand. Furthermore, loss of cold air from temperature-controlled areas was reduced through the use of air curtains.
- In Hillsboro (U.S.A.), all the lighting in the main building was converted to a state-of-the-art LED lighting system.
- In Treviso (Italy), the vacuum supply was upgraded with variable speed driven (VSD) vacuum pumps, significantly increasing efficiency.
- In Foshan (China), the cooling water system was redesigned so that fewer pumps are needed.
- In Penang (Malaysia), the air circulation provided by the air conditioning system in the test labs was optimized, and the efficiency of cooling facilities in the production area was increased through technical measures.
- We also implemented the first efficiency measures at our newest location in Kulim (Malaysia), such as fine-tuning the settings of the air conditioning system. Where possible, we have also lowered the temperature and humidity requirements.

While absolute consumption fell slightly, a figure of 203 MWh per €1 million in revenue in fiscal year 2019 means we missed our target for energy usage in relation to revenue by around 5%. This increase is due to the aforementioned lower capacity utilization at our production locations compared to the previous year. This is particularly the case at our semiconductor locations with high infrastructure requirements (air conditioning), which has to be maintained irrespective of the production volume.

Indicators – Energy Efficiency (continuing operations)

in MWh

	Fiscal year	
	2019	2018
Primary energy	163,600	171,000
Natural gas	133,500	138,000
Liquefied petroleum gas, diesel for on-site use, heating oil, hydrogen	30,100	33,000
Secondary energy	540,000	549,700
Electricity	508,900	521,800
<i>thereof share of renewable energy in %</i>	25%	27%
District heating and steam	30,800	27,600
Renewable energy generated inhouse	300	300
Total (primary and secondary energy)	703,600	720,700
Target for energy consumption in MWh per € 1 million revenue	194	187
Energy consumption in MWh per € 1 million revenue	203	191

c.5.4.2 Greenhouse Gases and Climate Change

Relevance

Climate change is a global challenge that also affects OSRAM. The direct and indirect greenhouse gas emissions that result from our use of energy contribute to climate change and mainly take the form of CO₂. Greenhouse gas emissions also occur in our upstream and downstream value chain.

Guidelines, Responsibilities & Structures, and Processes

OSRAM's Environmental Protection, Health, and Safety (EHS) department has the managerial authority to issue environmental protection guidelines, formulates policies that apply across the Group, and regularly checks that these are adhered to > [C.5.4 Environmental Aspects](#). OSRAM bases its documentation and reporting on the recognized standard of the Greenhouse Gas Protocol (GHG) and the Task Force on Climate-related Financial Disclosure (TCFD) when recording CO₂ emissions under

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- Scope 1 direct emissions from the use of energy sources,
- Scope 2 indirect emissions resulting from the use of secondary energy sources such as electricity or district heating, and
- Scope 3 emissions that occur up or down the value chain that are attributable to the Company, as well as upstream and downstream in our products' lifecycle, e.g., emissions resulting from the use of our products.³⁾

That is why we adopt both market-based accounting ('market-based'), using the vendor-specific emission factor, and location-based accounting ('location-based'), using the regional and national grid average, when reporting our Scope 2 emissions.

Measurements of energy consumption are used to manage efforts to reduce the above-mentioned Scope 1 and Scope 2 emissions. Absolute figures are documented at location level, and, using the corresponding conversion factors, scaled in relation to revenue at global level.

Objectives

OSRAM sets itself annual targets for reducing the Scope 1 and Scope 2 (market-based) emissions caused by the Company. Consistent with our energy efficiency targets > [C.5.4.1 Energy Efficiency—Objectives](#), we have also defined a relative target for reducing CO₂ emissions in relation to revenue. This reflects the Scope 1 and Scope 2 (market-based) emissions that are attributable to OSRAM in relation to revenue.

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As our targets for CO₂ emissions and energy efficiency are linked, the changes mirror each other. The OSRAM Licht Group's target for fiscal year 2019 for combined Scope 1 and Scope 2 emissions was 72 metric tons per €1 million in revenue.

Action Taken, Results, and Key Performance Indicators

At 268,900 metric tons, CO₂ emissions (Scope 1 and 2, market-based) in fiscal year 2019 reached approximately the same level in absolute terms as in the prior year, although total energy consumption fell slightly. This is predominantly attributable to expansion at the locations in Asia—particularly in Kulim (Malaysia) and Wuxi (China)—and the local, more carbon-intensive electricity mix.

As well as lowering energy consumption by raising efficiency at the individual locations > [C.5.4.1 Energy Efficiency](#), the measures taken to reduce our impact on the environment again included the targeted purchasing of energy obtained from renewable sources in Germany. During fiscal year 2019, around 127,900 MWh (previous year: 140,500 MWh) of the electricity used at OSRAM in Germany came from renewable energy sources. This avoided 54,300 metric tons of CO₂ emissions (previous year: 62,900 metric tons). As consumption in Germany dropped more sharply than in Asia, the share of renewable energies in the overall use of power fell to 25% (previous year: 27%) > [C.5.4.1 Energy Efficiency, Table Indicators—Energy Efficiency \(continuing operations\)](#).

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Due to the aforementioned reasons relating to the electricity supply and the issues relating to energy consumption outlined in > [C.5.4.1 Energy Efficiency](#), the specific CO₂ target was missed by 8%, with the final figure reaching 78 metric tons per €1 million in revenue.

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³⁾ We do not report on Scope 3 in this non-financial report of the OSRAM Licht Group. We have not agreed any targets in this respect yet. Further information regarding Scope 3 will be provided in the OSRAM Licht Group's 2019 Sustainability Report, which is scheduled to be published in January 2020.

Indicators—Greenhouse Gases and Climate Change (continuing operations)

CO₂ emissions in metric tons

	Fiscal year	
	2019	2018
GHG Scope 1 emissions	30,200	31,000
Natural gas	26,800	27,800
Liquefied petroleum gas, diesel for on-site use, heating oil	3,400	3,200
GHG Scope 2 emissions (market-based)	238,700	237,200
Electricity	231,000	230,900
District heating and steam	7,700	6,300
GHG Scope 2 emissions (location-based)	279,600	286,200
Total GHG Scope 1 and 2 emissions (market-based)	268,900	268,200
Target for metric tons of CO ₂ emissions from own activities (Scope 1 and 2) per € 1 million revenue	72	72
Specific metric tons of CO₂ emissions from own activities (Scope 1 and 2) per € 1 millions revenue	78	71

OSRAM was assessed by CDP, the world's largest climate protection ranking scheme, for the first time in fiscal year 2019 (score: C, awareness of climate change) and took part in the CDP survey for the second time.

A concept for devising an OSRAM climate strategy with longer term targets was developed in the past fiscal year. It includes an initial focus on emissions from our own business activities; in the medium term it will also cover emissions from the upstream and downstream supply chain. The proportion of renewable energy purchased also plays a role in achieving our reduction targets.

c.5.4.3 Raw Materials and Substances

Relevance

A wide range of raw materials and substances are used in the manufacture of our products, some of which remain in the products. Furthermore, the OSRAM portfolio of products requires the use of materials that could be classified as conflict materials due to their origin, for example from the Democratic Republic of Congo (DRC) and neighboring countries > [C.5.7 Respect for Human Rights](#).

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OSRAM focuses on monitoring and reducing the use of hazardous and critical substances, and generally we believe that resource-efficient use of materials is important, as this has a positive impact on the environment, reduces the cost of our products, and makes them more acceptable to customers.

We work on the basis that it should be possible to market our products anywhere in the world. The raw materials and substances used in the manufacture of our products—and remaining in them—are subject to ever-increasing regulation, which is an important factor for OSRAM in its various areas of business.

Guidelines, Responsibilities & Structures, and Processes

In order to fulfill our ambition of selling our products globally, OSRAM applies the world's strictest regulations as a global standard when it comes to the substances used in its products and the associated declarations. We deviate from this approach in local markets only to a very limited extent but always comply with local law.

In line with the OSRAM Environmental Protection, Health, and Safety policy and our Group guideline on product-related environmental protection, we are committed to responsible environmental management and the efficient use of resources, and to the development of eco-friendly processes and advanced products. The relevant rules and guidelines are issued by EHS; our business model dictates that responsibility for operational implementation lies with the business units themselves. Each business unit is responsible for ensuring that its products are designed in an environmentally compatible way and that resources are used efficiently both in production and when products are being used. At the product development stage, mechanisms are built into the processes to improve products continuously and meet legal requirements and customer specifications. EHS advises the units on legal requirements and monitors compliance.

Against a backdrop of ever stricter requirements, we use a special IT application that allows us to monitor the use of critical substances at component level and to ensure that our electrical and electronic devices are legally compliant. We refine the application continually.

The OSRAM Index List Environment (ILE) contains information on prohibited, restricted, and declarable substances. Our own developers and the suppliers of materials employed in our products use this information to help avoid, reduce, and declare the use of hazardous substances.

In order to fulfill our responsibility along the entire supply chain, we also involve our suppliers. They are required to promptly provide the necessary declarations and information for the qualification of new parts as well as for changes in relevant laws.

Responsibility for the aforementioned conflict materials lies with Procurement, which at Managing Board level also falls under the remit of the Chief Technology Officer (CTO). Because of the close association with risks of human rights abuses, this area is explained in detail in [C.5.7 Respect for Human Rights](#).

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Objectives

We have made it our goal to monitor the use of critical substances at component level to ensure that, in the face of increasingly strict regulatory requirements, we can sell our electrical and electronic devices around the world without further development.

We also aim to gradually reduce the amount of critical raw materials and substances we use, particularly conflict materials, and replace them with alternative materials where technically possible and commercially feasible. OSRAM strives for full transparency with regard to conflict minerals for its entire purchasing volume and is committed to dealing with the issue in accordance with OECD guidelines [C.5.7 Respect for Human Rights](#).

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Action Taken, Results, and Key Performance Indicators

In fiscal year 2019, we refined and improved our special IT application that allows us to continually monitor and improve the use of critical substances and components in accordance with our global requirements. These improvements mainly concern the simplification of communications from the supply chain, in particular. Changes in the regulatory environment were incorporated.

The focus was on updating the data for the revised RoHS Directive (2015/863/EU; Restriction of Hazardous Substances), which prohibits the use of four new substances. We were again able to significantly reduce the gaps in the information, data, and declarations provided electronically by our suppliers. This enables us to assess risks and product conformity more quickly and to react promptly and appropriately.

In accordance with our business model, responsibility for initiatives aimed at improving the use of materials lies mainly with the individual business units. Here is an example: Within the framework of the ORCA funding project of the Bundesministerium für Bildung und Forschung (BMBF—German Federal Ministry of Education and Research), OSRAM is working with partners to develop alternatives to the use of rare earth elements in LED phosphors.

Our suppliers are required to comply and keep up to date with the regulations that are relevant to our markets. We carry out regular supplier audits to ensure that they meet this obligation, among other things.

Due to the close association with human rights, all measures and results relating to conflict materials are described in [C.5.7 Respect for Human Rights](#).

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c.5.5 Social Aspects

As a global brand manufacturer, we see ourselves as part of society and aim to positively influence society through our products and solutions. OSRAM has always been driven by a desire to improve people's quality of life, whether by putting the first electric lights in towns and cities nearly 100 years ago or by increasing safety on roads with the first dipping headlights for cars. Today, the technological shift toward LED-based lighting systems and digitalization is opening up countless new possibilities that go far beyond the simple binary of 'light on, light off.' Our objective is to take full advantage of these possibilities. We look to maintain strong relationships with our customers and offer them quality across the board, including when it comes to product safety and data security.

With regard to social aspects, the following topics were identified as key to the OSRAM Licht Group in the materiality analysis described in [› C.5.1 About this Report](#):

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- Product safety,
- Protection and security of personal data, and
- Customer relationships.

These topics that have been identified as key for OSRAM from a societal perspective are extremely disparate and are subject to a variety of different external factors. For this reason, they are handled separately from one another in different parts of the OSRAM organization. The growth of digitalization, and the resulting focus on data privacy, give these three topics particular relevance for OSRAM, as do the ongoing changes in the lighting market. Each topic is examined in more detail in the following sections.

c.5.5.1 Product Safety

Relevance

OSRAM strives to offer a high level of quality, safety, and reliability in its products and solutions. The Company's reputation plays a key role in ensuring that our business remains successful over the long term. Our customers in the automotive industry set particularly high standards that must be upheld in order to retain their business.

The lighting market is undergoing constant technological change and is not globally homogeneous. Regulations regarding product safety are often specific to individual countries. In order to bring our products to market quickly while also complying with all rules and regulations, we need to coordinate these requirements at global level and take them into account at an early stage.

Guidelines, Responsibilities & Structures, and Processes

We are committed to complying with all legal requirements, standards, and norms relating to products and their safety, including labeling, that apply in the individual regions and countries in which we operate, and to implementing changes in good time. Product safety at OSRAM starts with product development; it plays a role in the procurement and production process, and is a key aspect for our customers during the product lifecycle.

At Managing Board level, responsibility for product safety and quality lies with the Chief Technology Officer (CTO), who has assigned the relevant tasks and managerial authority to the head of the corporate Quality Management department. The corporate Quality Management department is responsible for setting up and maintaining a quality management system, for issuing regulations that apply across the Group, and for routinely monitoring compliance with these regulations. Our core practices are described in the quality manual and quality policy and are publicly available. The guidelines and processes cover, for example, product safety, product development, and how we deal with defective products and any necessary escalation measures. Operational responsibility for implementing legislation and internal rules regarding product safety and quality lies with the CEOs of the individual business units. At regular intervals, the Quality Management department reports directly to the CTO on significant developments. The CTO is also informed immediately of any incident that has been classified as a critical quality issue by the responsible business unit.

Significant developments and critical issues at OSRAM CONTINENTAL are reported to the CEO, who reports to the shareholders via the Advisory Board.

When a matter relevant to product safety is reported, we immediately check and assess risks using a risk assessment matrix. The EU General Product Safety Directive (GPSD, 2001/95/EC), which sets out a structured framework for risk assessment, provides the global basis for our evaluation of potential product safety violations and of action plans to remedy such violations. As soon as any product safety risks are identified, appropriate processes are triggered to contain and eliminate these risks as quickly as possible.

Our processes and management systems are regularly certified to ISO 9001 and, for automotive customers, also to IATF 16949. In addition, OSRAM conducts regular internal audits of its factories, processes, and suppliers so that deficiencies can be identified and corrected at an early stage, before customers are affected.

Objectives

We strive to sell our products globally. We therefore endeavor to identify new legal requirements, standards, and norms that are relevant to our business in a timely and routine manner and apply them to our internal product safety specifications.

Action Taken, Results, and Key Performance Indicators

We had our processes and management systems recertified to ISO 9001 in fiscal year 2019. All locations supplying automotive customers were additionally certified to IATF 16949. Individual measures were taken at business unit level as well.

In fiscal year 2019, we succeeded in our goal of identifying new legal and regulatory requirements, standards, and norms in a timely and routine manner and applying them to our internal product safety specifications.

During fiscal year 2019, the Quality Management department received a report of potential violations concerning the impact of a product line sold in North America on the health or safety of our customers and, as a result, initiated a recall of the products in accordance with the internal guidelines.

c.5.5.2 Protection and Security of Personal Data

Relevance

The shift in the lighting market toward semiconductor-based technologies and photonics solutions is opening up new business opportunities that OSRAM would like to take full advantage of > [A.1.1.1 Business Model](#). This changing market is also characterized by ever greater digitalization, which presents opportunities, but also risks. The scope of personal data being processed is growing all the time as more and more web-based apps and products become available. At the same time, more and more regulatory requirements have been introduced concerning the protection, integrity, and availability of personal data. We aim to protect any personal data that we collect and to ensure that the way it is used is in compliance with the law.

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Guidelines, Responsibilities & Structures, and Processes

OSRAM has embedded data privacy in its business principles and internal policies, and introduced a data privacy management system (DSMS) in fiscal year 2018 to achieve its goals. Data protection encompasses the privacy of personal data pertaining to employees and customers, but also to our business partners and their customers. Our actions in this regard are guided by the requirements of national and international data privacy laws. Our data privacy guideline reflects these legal requirements and covers the entire Group. Applicable to all employees, it contains mandatory core principles and practical guidance for the handling of personal data and defines in more detail the general principles of data privacy set out in our Business Conduct Guidelines.

The data privacy organization is a global function and forms part of the compliance organization. The head of Group Data Privacy is responsible for the Group-wide DSMS and its implementation in the OSRAM Group companies. Data privacy coordinators are named in the Group companies or, if necessary, data privacy officers are appointed. The head of Group Data Privacy reports to the Managing Board on all developments. Data privacy is also routinely covered in the Chief Compliance Officer's reports to the Managing Board and the Audit Committee of the Supervisory Board.

OSRAM's data privacy organization has the managerial authority to issue Group-wide data privacy guidelines, formulates policies that apply across the Group, and regularly checks that these are adhered to.

We require our employees to treat personal data and information confidentially. The specific rules are described in our data privacy guideline. In addition, we provide web-based training on data privacy to all employees who have access to an email account. All our business partners that handle sensitive data are also required to train their employees accordingly. This applies in particular to our service providers and suppliers.

Despite the high technical and organizational security standards that we have in place, data breaches cannot be completely ruled out. OSRAM is required by law to promptly notify the relevant regulatory authorities if it is believed that a personal data breach has occurred. Since fiscal year 2018, suspected data breaches can also be reported via the existing whistleblowing system 'Tell OSRAM' > [C.5.8 Combating Corruption and Bribery](#).

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Objectives

Our objective is to protect the personal data of our employees and customers, as well as that of business partners and their customers, in all our products and processes and to avoid breaches of data privacy. Numerous technical and organizational mechanisms are in place to help us achieve this.

To help us meet this challenging objective in an international and heavily regulated environment, we have defined supporting objectives. As well as looking to ensure that our policies and training materials comply with the applicable laws and regulations, we want to reach a point where any OSRAM employee who comes into contact with personal data in the course of their work undergoes regular basic training. It is also our goal to integrate all new locations, either newly established or added as a result of acquisitions, into the data privacy organization within twelve months and to train the new employees accordingly.

Action Taken, Results, and Key Performance Indicators

In fiscal year 2019, the Group guideline on data privacy was brought into line with the current laws and regulations and the processing register was updated. Privacy policies and consent forms for employees, customers, and shareholders were also revised and data privacy requirements were integrated into the product development processes.

The basic online training on data privacy, which is provided regularly—most recently in fiscal year 2018—is currently being updated in line with the current regulatory environment and with a view to it being carried out again in fiscal year 2020.

During the reporting period, all locations and parts of companies brought into the OSRAM Licht Group within the preceding twelve months were integrated into the data privacy organization and the relevant employees were trained accordingly. A total of 11,304 employees received training via the web-based training tool or a classroom-based session.

Data privacy training was provided to 21 employees of OSRAM CONTINENTAL in fiscal year 2019.

Various means of communication were used to raise awareness of data privacy among employees. OSRAM held another data privacy and compliance day, for example. Employees at headquarters were given the opportunity to participate in panel discussions and visit stands where they could find out about data privacy and about services offered by the data privacy department.

During fiscal year 2019, we did not receive any inquiries related to data privacy from the competent supervisory authorities. No complaints were made by customers either. We received five requests for information, which were answered adequately and within the period of time prescribed by law. During the fiscal year under review, we reported two data breaches to the competent supervisory authorities. Because of the action that we had already taken, the supervisory authorities put the reports on file and refrained from issuing any sanctions.

c.5.5.3 Customer Relationships

Relevance

Our customers' requirements are changing significantly as technology shifts toward LED-based lighting systems. This transition is also resulting in a shift from a purely product-driven business to a modular and project-based business that is very different in character.

Digitalization is also becoming increasingly important within the sales and procurement channels, although we still have to contend with large differences in the degree of digitalization in specific industries and with specific customers.

Particularly in light of current changes in the industry, OSRAM strongly focuses on managing customer relationships in an efficient and targeted manner and in a way that takes advantage of the structures of the Group.

Guidelines, Responsibilities & Structures, and Processes

The operating activities covered by our business model are essentially organized into three business units: Opto Semiconductors (OS), Automotive (AM), and Digital (DI) [▶ A.1.1.1 Business Model](#). Each business unit's sales function is specifically geared to the requirements of its customers and markets and, as the direct interface to our customers, has operational responsibility for sales. This business model enables us to operate in the relevant markets in a targeted and market-oriented manner.

The Global Sales Excellence function was established in fiscal year 2018 in order to make sales processes and structures more efficient. It coordinates and implements Company-wide initiatives and projects as well as measures that are applicable to all business units. The head of Global Sales Excellence reports directly to the Chairman of the Managing Board.

OSRAM attaches great importance to obtaining regular and structured customer feedback on matters such as the satisfaction and loyalty of the customers involved. We continuously incorporate this feedback into the improvement of our processes and structures. Approximately every two years, a worldwide customer survey on the relevant customer touchpoints with OSRAM is carried out for all business units.

OSRAM CONTINENTAL only commenced operations in summer 2018, so the plan is to carry out a survey of its customers' satisfaction levels at a later point in time.

Objectives

One of our primary sales goals, in addition to winning new customers by breaking into new markets, is to further expand business with existing customers and to strengthen existing customer relationships so that together we can develop new business opportunities. Since fiscal year 2017, we have been using the Customer Loyalty Index (CLI) to measure quality in this area. The CLI is calculated on the basis of responses to questions posed in the biannual customer survey regarding overall satisfaction and likelihood of recommendation and can lie within a range of 0 to 100. With OSRAM currently in a phase of transformation, we strived to maintain the CLI score in fiscal year 2019 at the very high level of 81 that we had achieved in the previous customer survey in fiscal year 2017. It was also once again our goal to outperform our best competitors in the relevant KPIs.

In order to continue being able to serve our customers in ever-changing sales channels while at the same time reaping efficiencies in the sales process, it was our goal in fiscal year 2019 to set up a new B2B sales portal (online ordering system for corporate customers) as part of our Next Generation Sales corporate program as well as a new customer relationship management (CRM) system to help us manage customer relationships in a targeted and efficient manner. We would like to use the introduction of the new B2B sales portal to significantly increase the proportion of our revenue that is generated online and to systematically build on our objectives. The intention is to greatly simplify the online purchasing process for our customers and to provide greater transparency with regard to products, variants, and availability, etc. CRM is being introduced in part to pool sales-related information and to make this readily available in a user-friendly system.

Because of its customer and production structure, OSRAM CONTINENTAL is not currently part of Next Generation Sales. The customers of OSRAM CONTINENTAL are already individually served by a dedicated key account management system.

Action Taken, Results, and Key Performance Indicators

In fiscal year 2019, we integrated the Global Sales Excellence function, which had been established in fiscal year 2018, even more closely into the operational sales units and increased the focus on sales structures. Our objective is for this to have a positive impact on our customer relationships in what is a challenging market environment. For example, new ABC customer segments were defined in the sales organization of several business units and corresponding service catalogs were implemented.

We made particularly good progress with the projects related to the introduction of the B2B sales portal and CRM, with roll-out of the new sales support software commencing at the end of September 2019.

The overall implementation and refining of the system—as well as the related processes—will last around two years and is being carried out using an agile method.

In fiscal year 2019, OSRAM once again conducted a worldwide survey of customer satisfaction and loyalty. Once the survey has been completed and the results analyzed, the business units define measures specific both to particular customers and customers generally, and monitor their implementation. The survey is submitted to the OSRAM Managing Board for approval, which is informed on a case-by-case basis of the results and the action taken by the business units. At 81 out of a possible 100 points, OSRAM was able to maintain its CLI score at the very high level achieved in 2017.

Indicators—Customer Relationships (continuing operations) without OSRAM CONTINENTAL

	Fiscal year		Target 2019
	2019	2017 (last survey)	
Customer Loyalty Index (CLI) ¹⁾	81	81	>= 81
Range (minimum)	0	0	
Range (maximum)	100	100	
Best competitors' average ²⁾	68	65	

- 1) The CLI is calculated from the evaluation of satisfaction and the recommendation readiness of the customers. The evaluation is done by the customer during the survey using an 11-point scale (0 to 10). The rating is transformed to a scale from 0 (minimum) to 100 (maximum). Indicated is the average value of the customer ratings.
- 2) In each customer interview conducted as part of the survey, a value for OSRAM's best competitor is recorded. The results of the individual 'best competitors per customer' are aggregated to a competitor value that is then compared with the OSRAM value (CLI).

c.5.6 Employee Aspects

Our Human Resources (HR) work plays a key role in our efforts to drive sustainability. We believe that employees who are satisfied, successful, and also healthy provide the necessary foundation for achieving long-term commercial success.

With regard to employee aspects, the following topics were identified as key to the OSRAM Licht Group in the materiality analysis described in [C.5.1 About this Report](#) and in consultation with the Managing Board:

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- Occupational health and safety,
- Fair working conditions,
- People development and, as a result of this,
- Employee satisfaction and employer attractiveness.

HR work at OSRAM is currently facing two major challenges. Firstly, the lighting industry has been in transition for a number of years now and OSRAM is becoming a high-tech player in the photonics sector [A.1.1.1 Business Model](#). Secondly, we are faced with an increasing shortage of skilled workers in many of the regions in which we operate. OSRAM's HR work is therefore hugely important to the continued success of the business, which is why the Chairman of the Managing Board (CEO) also serves as the Company's Labor Relations Director.

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Human Resources (HR) is responsible for the key topics identified above, with the exception of occupational health and safety. HR at OSRAM is organized on a global basis, and overall responsibility for HR matters and HR organization lies with the Chief Human Resources Officer, who reports directly to the Chairman of the Managing Board. Occupational health and safety at OSRAM falls under the remit of the Chief Technology Officer (CTO), who had delegated this area of responsibility to the head of Environmental Protection, Health, and Safety (EHS) [C.5.6.1 Occupational Health and Safety](#).

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OSRAM's global HR guideline aims to establish worldwide standards in the area of HR. It contains firm rules for employees and managers on the hiring process, diversity, talent acquisition, people development, training, remuneration, and benefits.

c.5.6.1 Occupational Health and Safety

Relevance

OSRAM is committed to offering its employees a safe and healthy working environment. Minimizing the risk of occupational illnesses and accidents at work forms part of this. In this way, we not only fulfill our responsibility to society as a whole but also reduce economic losses.

Guidelines, Responsibilities & Structures, and Processes

OSRAM's Environmental Protection, Health, and Safety (EHS) department has the managerial authority to issue guidelines related to occupational health and safety and formulates relevant policies that apply across the Group. The occupational health and safety guideline applies across the Company, and appropriate training and monitoring processes have been implemented for its compliance.

Overall responsibility for occupational health and safety lies with the Chief Technology Officer (CTO), who has delegated tasks and managerial authority to the head of the corporate EHS department > [C.5.4 Environmental Aspects](#).

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This year, the Wuxi, Kunshan DO, Kunshan OSRAM CONTINENTAL, and Foshan locations (all China) as well as the locations in Chennai (India), Penang and Kulim (both Malaysia), and Bergamo (Italy) and the headquarters in Munich were still externally certified according to the OHSAS 18001 standard for occupational health and safety management. In fiscal year 2019, we began with the transition to the new ISO 45001 standard. The transition is scheduled to be completed by the end of the calendar year. Our internal guidelines require the other production facilities to also maintain a management system for occupational health and safety in accordance with the ISO 45001 standard. Compliance is monitored by internal audits. Development and sales locations with more than 50 employees operate a reduced management system and contribute data to the health and safety indicators. The EHS department includes in its reporting a selection of locations that do not quite reach this threshold but might do so in the future, and our reporting therefore covers 96% of our employees.

At the aforementioned locations, the responsible managers must carry out a risk assessment for each area of activity in accordance with internal guidelines and with the support of trained safety officers. We have also established occupational health and safety committees in accordance with local legal requirements or on a voluntary basis. Furthermore, all OSRAM employees have an obligation and responsibility to be mindful of safety, wherever they are.

Objectives

Our goal is to offer our employees a safe and healthy workplace. In order to meet this goal, we aim to continually improve the parameters that impact on health and safety.

OSRAM records work-related injury data at its locations as a basis for calculating the internationally recognized key metrics Lost Time Injury Frequency Rate (LTIFR) and Severity Rate (SR).

Targets are set for each individual location. For LTIFR, the target is based on achieving a reduction relative to the average figure for the past three years. The SR target factors in the regional average duration of absence per injury. The regional and global targets are then aggregated from the individual values.

For fiscal year 2019, we set ourselves a global LTIFR target of 0.30 (previous year: 0.28). The SR target for fiscal year 2019 was 7.53 (previous year: 9.45). We already expect a zero-injury rate at non-production locations.

Action Taken, Results, and Key Performance Indicators

A host of activities and measures focused on occupational health and safety were initiated and carried out in our regions in fiscal year 2019. These included special work safety days and newsletters that were distributed centrally and locally with the aim of improving the sharing of best practice, including in the raising of safety awareness and the optimization of personal safety equipment.

We achieved the targets that we had set ourselves for fiscal year 2019. The comparatively low LTIFR of 0.29 was below the target, for example, and in line with the low figure attained in fiscal year 2018 (0.28). There was no rise in the number of workplace accidents, but there was a decrease in the number of hours worked.

The SR of 6.04 was well under the figure for the previous year (9.45) and was below the target as well. As we had to factor in absences in fiscal year 2019 that were related to accidents from the previous year, the SR did not match the level of fiscal year 2017 (5.42). We cannot directly influence medically justified absences, so we continued to work on reducing the overall accident rate in fiscal year 2019. The long-term trend shows that the result for the previous year does not reflect a systematic problem, but rather a coincidental chain of accidents.

No fatal workplace accidents occurred in the fiscal year under review.

Indicators – Health and Safety (continuing operations)

	Fiscal year		
	2019	2018	Target 2019
Rate of occupational accidents with days of absence (LTIFR) ¹⁾	0.29	0.28	0.30
Severity rate (SR) ¹⁾	6.04	9.45	7.53
Occupational accidents with lost days	75	75	

1) The LTIFR represents the number of accidents at work resulting in at least one day lost in relation to the total number of working hours during the fiscal year. The SR represents the total number of days lost in relation to the total number of working hours during the fiscal year. Both KPIs are scaled to 200,000 working hours, excluding commuting accidents.

c.5.6.2 Fair Working Conditions

Relevance

Fair working conditions are a cornerstone of how we conduct our business and the basis of good and fair collaboration. We aim to offer every employee a working environment that is free from violence and discrimination, and in which each person is respected as an individual. Priorities in our efforts to create fair working conditions include, in particular, promoting diversity, fair pay and company benefits, and open and fair collaboration between employers and employees.

Having a diverse workforce is of great importance to us as a global company. We firmly believe that diversity has a positive effect on our business, as relationships with international customers and suppliers require cultural awareness, and that diverse teams have a strong ability to innovate. In times where skilled workers are increasingly scarce, being able to offer an open working environment and fair pay with suitable company benefits is very important to qualified applicants. We conduct an open and fair dialog and find an appropriate balance between the interests of employees and employers, particularly during OSRAM's current transformation phase, which involves restructuring of the workforce > [C.5.6 Employee Aspects](#).

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Guidelines, Responsibilities & Structures, and Processes

In order to offer fair working conditions to our employees around the world, we make use of, and commit ourselves to, international frameworks such as those provided by the International Labour Organization (ILO) and the UN Global Compact. We are committed to giving our employees the right to freedom of association and the possibility of concluding collective agreements.

These and other principles, such as respect for the personal dignity, privacy, and personal rights of each individual and a zero-tolerance approach to discrimination, are set out in our Business Conduct Guidelines (BCG) and apply to all employees and members of OSRAM's Managing Board and Supervisory Board. The guidelines govern our dealings with each other and with our customers, shareholders, business partners, and the public. Potential violations of the behavioral requirements set out in the BCG can be reported via the whistleblowing system 'Tell OSRAM'. All reports are followed up > [C.5.8 Combating Corruption and Bribery](#). The new cultural values were defined in fiscal year 2018 based on the ongoing realignment of OSRAM (#TheNewOSRAM) and focus on how employees should work together and how leadership at OSRAM should be structured.

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The Code of Ethics was implemented at OSRAM CONTINENTAL in fiscal year 2019. The code defines the values that shape the company's social actions and help it to act lawfully and ethically. The Code of Ethics also provides guidance on how to interact responsibly with one another in the workplace, for example.

In order to fulfill our responsibilities along the entire supply chain, we require our suppliers to comply with the rules and obligations enshrined in the OSRAM Code of Conduct for Suppliers, and to provide their employees with working conditions that conform to this > [C.5.7 Respect for Human Rights](#).

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At OSRAM CONTINENTAL, the requirements to be met by suppliers with regard to fair working conditions and respect for human rights are set out in OSRAM CONTINENTAL's Code of Ethics.

Our corporate diversity activities are embedded in the HR organization. We place great value on developing our culture of diversity and on meeting the needs of the local workforce. Increasing the number of women in managerial roles is a key aspect of this.

There are currently no targets for diversity at OSRAM CONTINENTAL.

We value our employees and treat them with respect, and part of this includes offering them fair pay. Our remuneration system is designed so that pay is commensurate with performance and does not discriminate on the basis of gender or other characteristics. It is our responsibility to comply with local legal requirements in relation to pay. In Germany, the collectively agreed remuneration system forms the basis for equal pay among workers covered by this scheme. Roles that are above the pay scale are also treated equally, with non-discriminatory criteria used to determine the level of remuneration. In addition, OSRAM uses a clearly defined incentive system to boost employee performance. Depending on the national rules and regulations, OSRAM offers discretionary benefits over and above the legal requirements in areas such as health and accident insurance, occupational pension provision and other forms of deferred compensation, parental leave, maternity rights, and in Germany also an employee share program in fiscal year 2019.

Collective agreements are in place at our largest European companies in terms of number of employees⁴⁾. We work closely with these companies' employee representatives (whether works councils or trade unions). In Germany, for example, this has resulted in a large number of works agreements.

Objectives

In fiscal year 2019, the existing whistleblowing system 'Tell OSRAM' was expanded so that violations of our fair working environment principles can also be reported via the system. We aim to analyze the reports and identify Company-wide prevention measures.

On July 13, 2017, the Managing Board set the target for OSRAM Licht AG for the proportion of women in the first level (senior managers) and second level (employees above the pay scale) of management in Germany at 34% and 30% respectively. Both targets are to be reached by June 30, 2022. For the Group as a whole, the Managing Board set the target for both levels in Germany to be achieved by June 30, 2022, at 17.5%. Twice a year, we record the gender ratio in countries where the Group has more than 400 employees in order to increase the number of women in managerial roles internationally as well. Our objective is to further increase the number of women in managerial roles while taking regional circumstances into account. As a German technology company, OSRAM initiates and participates in activities aimed at making technology careers more attractive to women and girls in order to achieve this objective over the long term.

Restructuring remains an essential step in OSRAM's transformation outlined above. Where job cuts are unavoidable, OSRAM strives to minimize the social impact and to consult its employees at the earliest stage possible.

Action Taken, Results, and Key Performance Indicators

Overall, there was one reported indication of a possible violation of the principle of fair working conditions in fiscal year 2019. This report was recorded and analyzed systematically, and no violation of the principle of fair working conditions was identified. We are currently working on specific prevention measures, including training and flyers, to ensure that fair working conditions can be achieved in all sectors and regions.

In the past fiscal year, there were numerous activities to make technical roles at OSRAM more attractive to women and girls, in particular. For example, the first 'Girls' Day' was held in Munich in fiscal year 2019, in which 40 girls with an interest in technology took part. We also visited fairs such as herCAREER and women&work in Germany. Globally, the share of women in first level management roles was 15% as of September 30, 2019, while the figure for second level management roles increased to 22%. As of September 30, 2019, the proportion of women across the Group in the first and second levels of management in Germany stood at 12.2% and 17.6% respectively.

OSRAM CONTINENTAL is excluded from the calculation of the target figures for the Group as a whole.

4) These are Germany, Italy, Slovakia, and the Czech Republic; Bulgaria is excluded.

Indicators— Share of Female and Male Employees (continuing operations)

	First management level ¹⁾		Second management level ²⁾		Total workforce	
	Fiscal year		Fiscal year		Fiscal year	
	2019	2018	2019	2018	2019	2018
Female	15%	16%	22%	20%	46%	48%
Male	85%	84%	78%	80%	54%	52%

1) Senior managers who belong to the executive level of the organization.
 2) Managers above pay scale.

With regard to the transformation of the Company, we succeeded in agreeing a future concept for the German locations with the employee representatives in Germany during fiscal year 2018. The talks were held not only in the committees required by the Betriebsverfassungsgesetz (BetrVG—German Works Constitution Act), such as the Economic Committee and the General Works Council, but also in a steering committee set up for this purpose. The steering committee, in which representatives of the Group Works Council and of the labor union participate, discusses developments resulting from the transformation at a very early stage and highlights the consequences for employment. Information is provided first-hand by members of the Managing Board, by the head of Operations, and by the head of HR.

The bulk of the measures were implemented in fiscal year 2019 in line with the plan, which runs until the end of fiscal year 2020. Its implementation involves both job cuts and employee training. This program provides employees with the training they need to meet the new job requirements and so to be assigned to other tasks. OSRAM has made a central training budget available for this purpose. Where job cuts were necessary, we made sure that they were voluntary redundancies with the minimum possible social impact. Early retirement, in particular, played an important role alongside termination agreements. We have so far been able to avoid termination notices through the extensive use of pre-retirement part-time employment arrangements and the aforementioned skills training.

OSRAM CONTINENTAL is not part of OSRAM's transformation process.

c.5.6.3 People Development

Relevance

Employee training and continuing professional development are key factors in the future success of our business. OSRAM and the labor market are undergoing a transition [>C.5.6 Employee Aspects](#). We want to keep our employees' skills up to speed with ongoing changes in industry and the workplace by providing opportunities for professional development, and thus improve their long-term engagement.

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We also believe it is part of our role as a corporate citizen to provide training for young people in many of the countries in which we operate and in doing so give them access to the world of work at an international company.

Guidelines, Responsibilities & Structures, and Processes

People development at OSRAM is an essential strategic approach to maintaining and improving our competitiveness over the long term. Our objective, based on the business-specific requirements, is to fill positions with the right people and make the best use of each employee's individual talents and skills.

People development at OSRAM includes educational and training opportunities, a range of career paths, and programs for high-potential employees.

Employees have many opportunities for professional and personal development throughout their career at OSRAM, from vocational training and the management trainee program to subject-specific training and management and specialist programs.

Human Resources (HR) is responsible for people development at OSRAM.

Our apprenticeships play a major role in securing the next generation of employees. We currently provide training in eight recognized technical trades, one commercial occupation, and four degree apprenticeships. In fiscal year 2019, 134 (previous year: 139) young people were employed at OSRAM as part of their training or degree apprenticeship, 128 (previous year: 133) of them in Germany.

In addition to providing training, OSRAM continually and systematically works on employee development. This involves a regular and structured dialog between employee and line manager. For non-pay-scale employees and selected employee groups, this forms part of the established GROW process. The process encourages close dialog between line manager and employee, and also involves top management.

We offer our entire workforce a comprehensive general training program with numerous opportunities for professional development and skills upgrading. The program is reviewed once a year and modified if necessary. It is particularly important during the current transformation phase to give our employees the opportunity to get involved in specialist areas of increasing importance to OSRAM, such as digitalization, as well as in customer and project management.

We offer our employees a range of development opportunities to match their individual skills profile under the Leadership, Key Expert, and Project Management global career paths. Employees are nominated for our high-potential programs, the aforementioned career paths, and the accompanying development programs as part of the GROW process. The high-potential programs are used to develop our most talented individuals at global and local level.

Training and career development programs and talent management are being established and implemented at OSRAM CONTINENTAL.

Objectives

To remain competitive in a changing industry and employment landscape, we need to identify at an early stage the skills that the Company will need in the future so that wherever possible we are able to fill vacancies, including senior roles, internally.

Action Taken, Results, and Key Performance Indicators

We established structures and processes in fiscal year 2019 to ensure that we can adequately fill our management positions, and we regularly review and adapt these as required. As a result, we have developed a global talent management strategy and introduced a new learning management system, for example.

In fiscal year 2019, OSRAM invested €7.53 million in its employees' continuing professional development.

The revised and newly created processes and programs were introduced in the past fiscal year in line with our objectives. The new learning management system has significantly improved user-friendliness, and further countries will be included and have access to it in the future. In fiscal year 2019, the content of both the local 'GoFurther!' and the global high-potential programs was revised and an executive program was launched. Thanks in part to these activities, we were able to significantly increase the number of management and senior management positions filled by internal candidates.

Indicators – Recruitments of Management Positions (continuing operations)

	Fiscal year	
	2019	2018
Number of recruitments – senior management positions ¹⁾	37	29
thereof internal recruitments	31	12
Number of recruitments – management positions ²⁾	254	250
thereof internal recruitments	189	51
Number of recruitments – total management positions	291	279
 Thereof total internal recruitments	220	63

1) Senior managers who belong to the executive level of the organization.
 2) Managers above pay scale.

The international OSRAM management trainee program ‘Light Up’ was also carried out in fiscal year 2019.

c.5.6.4 Employee Satisfaction and Employer Attractiveness

Relevance

Our employer attractiveness, i.e., how we are perceived internally and externally as an employer, is a key determinant of the long-term success of the organization, particularly in light of our transformation and the development of the labor market [› C.5.6 Employee Aspects](#). We believe that employee satisfaction and our attractiveness as an employer are an indicator of how we treat our employees, and is heavily influenced by [› C.5.6.1 Occupational Health and Safety](#), [› C.5.6.2 Fair Working Conditions](#), and [› C.5.6.3 People Development](#).

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Guidelines, Responsibilities & Structures, and Processes

We have defined an employer positioning that is aligned with our corporate goals and that provides a strategic framework for our HR work. This is set out and described in an employer branding guide⁵⁾ in order to provide uniform standards across the Group.

We carry out a global survey in order to gauge employee satisfaction and engagement. To obtain further feedback from employees, we hold regular events such as town hall meetings with OSRAM’s management and run webcasts with the Managing Board and other members of management. We incorporate the feedback received into our HR work, which we strive to continually improve based on what our employees tell us.

OSRAM also regularly takes part in or supports training days, graduate fairs at universities, and other relevant events in order to communicate our employer positioning and present OSRAM as an employer of choice.

Objectives

During the Company’s current transformation, our objective is to match the employee satisfaction levels of other companies that are undergoing change, with a view to maintaining our strong appeal as an employer in the labor market. We hope to achieve this through the successful transformation of our Company, underpinned by HR activities with a long-term focus. In terms of employer attractiveness, our objective for fiscal year 2019 was to continue to be certified as a ‘Top Employer’ by external institutes and to remain highly popular with the target group of potential employees. A further objective was to expand our social media activities to ensure that our attractiveness receives widespread attention.

Action Taken, Results, and Key Performance Indicators

The employee survey planned for fiscal year 2019 was delayed due to financial considerations. We intend to conduct the survey in fiscal year 2020 instead.

Global measures resulting from the 2017 employee survey were completed in the previous year. In fiscal year 2019, measures at global level were integrated into the campaign #TheNewOSRAM.

5) OSRAM CONTINENTAL does not currently have an employer branding guide.

The target of retaining our certification as a Top Employer was achieved in fiscal year 2019, with certificates awarded in Germany, China, Malaysia, and the U.S.A. We also added further platforms to our social media presence, and can now showcase OSRAM as an attractive employer on Twitter, Instagram, and Xing as well as on LinkedIn and Facebook as before.

c.5.7 Respect for Human Rights

Relevance

As an international company with diverse products and complex global value chains, we know that our business relationships present the risk of human rights violations, especially for potentially more vulnerable groups such as migrant and temporary workers. Furthermore, the OSRAM portfolio of products requires the use of materials that could be classified as conflict materials due to their origin, for example from the Democratic Republic of Congo (DRC) and neighboring countries > [C.5.4.3 Raw Materials and Substances](#).

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We do not tolerate any form of modern slavery, child labor, forced labor, or human trafficking, whether within our own business or at our suppliers and business partners. We have also put processes and policies in place to ensure that standards for environmental and social accountability are met by our own locations and by our suppliers.

Guidelines, Responsibilities & Structures, and Processes

We outline our approach to respecting human rights in the OSRAM human rights guideline. We respect and support internationally recognized human rights at all of our locations and are committed to the principles of the United Nations (UN) Human Rights Charter, which we actively support as a member of the UN Global Compact.

The human rights of OSRAM employees are enshrined in the Business Conduct Guidelines and the new human rights guideline introduced in fiscal year 2019. The guideline is based on the Universal Declaration of Human Rights, the fundamental conventions of the International Labour Organization (ILO), the principles of the UN Global Compact, and the Guiding Principles for Business and Human Rights (UN). We place an obligation on all OSRAM employees to implement the guideline in an appropriate way in their area of responsibility.

The OSRAM CONTINENTAL Code of Ethics contains requirements regarding respect for human rights > [C.5.6.2 Fair Working Conditions](#).

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HR coordinates our due duty of care with regard to human rights and our employees. The head of HR (Chief Human Resources Officer) reports directly to the Chairman of the Managing Board, who also serves as the Labor Relations Director. The HR department has the managerial authority to issue human rights policies and coordinates how compliance with these policies is monitored.

In order to fulfill our responsibility along the entire supply chain, we also involve our suppliers in the process. We place a duty on them to comply with the rules and obligations of the OSRAM Code of Conduct for Suppliers, which includes respect for human rights and ensuring that compliant working conditions are in place. We use various instruments and processes to help our suppliers implement our Code of Conduct for Suppliers and to monitor compliance with it. Based on the analysis of our procurement volume with regard to social risks, each year a selection of suppliers are requested either to submit an up-to-date corporate responsibility audit or to have it carried out, or to prove compliance with corporate responsibility requirements by means of equivalent certifications (ISO 14001 in combination with ISO 45001 or OHSAS 18001).

Since fiscal year 2019, it has also been possible to report potential human rights breaches via the existing whistleblowing system 'Tell OSRAM' > [C.5.8 Combating Corruption and Bribery](#).

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The OSRAM portfolio of products also requires the use of materials that are classified as conflict minerals due to their potential origin > [C.5.4.3 Raw Materials and Substances](#). In order to properly discharge our human rights responsibilities in this area too, we have put in place appropriate due diligence processes for procurement. Responsibility for the issue of conflict minerals lies with the Purchasing department, which is assigned to the Chief Technology Officer (CTO) and reports directly to him. OSRAM has been a member of the Responsible Minerals Initiative (RMI) since 2017. The sharing of information and insights within the RMI is helping us to continuously improve our due diligence on conflict minerals. RMI training materials are available to our suppliers via an online training portal. When purchasing raw materials, OSRAM makes sure that it uses qualified sources. For example, all our directly commissioned smelters for conflict minerals are RMI certified.

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Objectives

A comprehensive Group-wide policy regarding respect for human rights was introduced for the first time in fiscal year 2019. Our aim is to regularly review it against developments in the regulatory environment and adapt it as required. Our objective for fiscal year 2019 was to integrate human rights risks into the OSRAM risk management system and to complete the internal audit.

Since fiscal year 2019, it has also been possible to report potential human rights breaches via the existing whistleblowing system 'Tell OSRAM'. As well as investigating each report, we want to systematically analyze the reports and derive appropriate measures from them. This is how we aim to raise awareness of this important topic within the organization and prevent human rights violations.

Our existing suppliers provide us with the results of the corporate responsibility audits outlined above or of comparable certifications. We aim to systematically analyze the results and derive measures from them in order to continually minimize the risk of human rights breaches.

We strive for full transparency with regard to conflict minerals for our entire purchasing volume and are committed to dealing with the issue in accordance with OECD guidelines. For a number of years, we have been working on investigations into country of origin and on due diligence checks of the smelters in our supply chains. Our long-term objective is to establish the conflict-free status of all products within the portfolio. We have already achieved this status for the product portfolio of the Opto Semiconductors Business Unit, and hope to maintain this status in the future. Our objective for fiscal year 2019 was to achieve a conflict-free portfolio for the Automotive Business Unit.

Action Taken, Results, and Key Performance Indicators

Our departments continued to monitor the relevant national and international legal frameworks on human rights in fiscal year 2019. Our human rights guideline was published on our website in January 2019.

The OSRAM CONTINENTAL Code of Ethics contains requirements regarding respect for human rights but currently is not published externally > [C.5.6.2 Fair Working Conditions](#).

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Human rights risks can be reported as part of the enterprise risk management process. Questions regarding human rights risks have also been included in the company level control questionnaire, which is used in the annual evaluation of the local control system of all consolidated entities by the relevant CEOs and CFOs. In the past fiscal year, a process for continually monitoring human rights risks and appropriate management processes was introduced to enable an annual risk assessment.

For the first time, it was also possible to report potential human rights breaches via the existing whistleblowing system 'Tell OSRAM' in fiscal year 2019. We received two notifications of possible violations in total in fiscal year 2019, with a geographical focus on the APAC region and concerning human rights matters. These reports were recorded and analyzed systematically, and no violation of human rights was identified in either case. We are currently working on measures, such as information material for managers and employees, to raise awareness of the new option to report human rights violations via 'Tell OSRAM'.

As part of the relationship with our existing suppliers, we also evaluated the results of the corporate responsibility audit and/or other certifications that were requested. The audit's geographical focus in fiscal year 2019 was on China and Malaysia. We are working with our suppliers on continual improvement based on the findings of the analysis.

To date, we have not yet fully succeeded in establishing, together with our suppliers, the conflict-free status of all products within the portfolio. We made some progress, but we did not manage to achieve conflict-free status for the portfolio of our Automotive Business Unit during the reporting period.

As part of our activities to promote respect for human rights, we also pursue region-specific topics that are identified by our risk analysis. Corporate responsibility in the supply chain, for example, was a topic of panel discussions at this year's supplier day.

c.5.8 Combating Corruption and Bribery

Relevance

OSRAM is committed to preventing corruption and bribery as well as to fair competition. We believe that sustainable business success can be achieved only through lawful and responsible practices. Bribery and corruption are an impediment to healthy markets and hold back economic growth and the development of the affected society. Our open corporate culture and the established and effective compliance management system are key components in our endeavors.

Guidelines, Responsibilities & Structures, and Processes

OSRAM's compliance management system is designed to prevent possible violations of the applicable anti-corruption and antitrust laws. To this end, a compliance guideline supplements, and defines in more detail, the conduct rules on tackling corruption and dealing with competitors that are set out in the Business Conduct Guidelines. The compliance management system follows the management system methodology described in the IDW AssS 980 assurance standard.

From an organizational perspective, the compliance management system consists of employees at the headquarters and in the regions. The Compliance department has the managerial authority to issue guidelines, specifies content and processes, and regularly monitors compliance. The Chief Compliance Officer reports directly to the Chairman of the Managing Board. As part of its remit to supervise management functions, the Supervisory Board monitors the effectiveness and appropriateness of the compliance management system. At OSRAM, this task is assigned to the Supervisory Board's Audit Committee, to which the Chief Compliance Officer reports on a quarterly basis, or on an ad-hoc basis.

Compliance risk assessments focused on anticorruption and antitrust law are regularly carried out in selected entities and areas of the business in order to identify compliance risks and make continuous improvements to the Group-wide compliance management system. Each management team and the compliance organization also conduct regular controls of tool-based processes for dealing with business partners and entertainment, for example. These controls form part of our internal control system.

OSRAM has several tools at its disposal for dealing with corruption-related risks. For example, we review and classify certain business partners according to particular criteria, such as the prevalence of corruption in the country in which the partner operates, and require them to comply with anticorruption rules. Our suppliers must sign the Code of Conduct for Suppliers, which prohibits corruption and bribery.

Another element of OSRAM's compliance management system is the whistleblowing system 'Tell OSRAM', which employees and third parties can use to report breaches of compliance rules, anonymously if they so wish. Reports can also be made through the usual internal company channels, such as the relevant Compliance Officer, Corporate Compliance, or the line manager. All reports received by OSRAM are followed up. Retaliation against whistleblowers will not be tolerated. Internal compliance investigations are carried out if there are concrete indications of wrongdoing. Once the investigation is complete, the Compliance department recommends measures to address any identified deficiencies and monitors their implementation. In the event of misconduct on the part of our employees, OSRAM may take disciplinary action in accordance with labor law.

A further key component of our compliance management system is our employee training program, as part of which we conduct classroom-based and online training sessions focused on anticorruption and antitrust law. The training courses are mandatory for all senior-level employees and for all employees working in sensitive functions (particularly sales, purchasing, and marketing).

Regular communication activities are carried out to raise awareness among employees and to strengthen the compliance culture. They highlight the commitment of management to compliance and the relevance of compliance to OSRAM.

OSRAM CONTINENTAL, which was founded in fiscal year 2018, introduced a compliance management system in fiscal year 2019. This is also designed to prevent breaches of the applicable anticorruption and antitrust laws and is based on the OSRAM CONTINENTAL Code of Ethics.

Objectives

Our overarching objective is to systematically combat corruption and bribery, to follow up on all suspected breaches, and to enforce consequences if a breach is confirmed.

In order to meet this objective, we need an effective compliance management system that reflects the organizational structure of the OSRAM Licht Group and the relevant regulatory environment. We therefore engaged an auditor in fiscal year 2019 to audit our compliance management system pertaining to anticorruption and antitrust law, and certify it in accordance with the IDW AssS 980 assurance standard.

A modern training program is a key component of our compliance management system. That is why we want to reflect the current regulatory environment and OSRAM organization in our classroom-based and online training sessions, and provide our employees with the most comprehensive training possible.

Action Taken, Results, and Key Performance Indicators

In fiscal year 2018, we engaged an auditor to audit our compliance management system pertaining to anti-corruption and antitrust law in accordance with the IDW AssS 980 assurance standard. A significant part of the audit took place in fiscal year 2018 and focused on OSRAM GmbH as the largest operating company and home of the corporate functions. The adequacy, implementation, and effectiveness of the OSRAM Licht Group's compliance management system was certified without qualification in accordance with the IDW AssS 980 assurance standard in October 2019.

Targeted communication measures were taken in fiscal year 2019 to raise awareness among the employees. For example, a video interview with the CEO on the importance of compliance to the Company's success was published on the intranet, and compliance-related questions were raised in panel discussions with internal experts.

In fiscal year 2019, we adapted our training program to the current regulatory requirements and incorporated insights from the successful audit of the compliance management system. The following table provides information on our anticorruption training activities.

Indicators— Compliance Training focusing on Anti-Corruption (continuing operations)

	Fiscal year	
	2019	2018
Employees (OSRAM Licht Group; FTE)	23,500	26,200
Number of employees trained (in-person and online)	6,686	4,926
thereof in EMEA	2,722	1,305
thereof in APAC	2,588	3,216
thereof in Americas	1,376	405

There were 27 reports of possible compliance violations in fiscal year 2019 (previous year: 41). In total, six cases had disciplinary consequences in fiscal year 2019 (previous year: three).

Indicators— Compliance incidents¹⁾ (continuing operations)

	Fiscal year	
	2019	2018
Employees (OSRAM Licht Group; FTE)	23,500	26,200
Reports on possible compliance violations	27	41
Compliance investigations (substantial)	14	20
Disciplinary consequences	6	3
Closed incidents from previous reportings	31	43

1) Compliance incidents encompass especially all possible allegations of a violation of criminal or administrative law related to OSRAM's business activities.

C.6

Independent Auditor’s Limited Assurance Report

The assurance engagement performed by Ernst & Young (EY) relates exclusively to the German PDF version of the non-financial group report 2019 of OSRAM Licht AG. The following text is a translation of the original German Independent Assurance Report.

To OSRAM Licht AG, Munich

We have performed a limited assurance engagement on the separate non-financial group report of OSRAM Licht AG according to § 315b HGB (“Handelsgesetzbuch”: German Commercial Code), consisting of the disclosures in chapter C.5 “Non-financial Group Report” as well as the sections A.1.1.1 “Business Model” as well as section A.1.1.3 “Organization and Reporting Structure” in the group management report being incorporated by reference (hereafter non-financial group report), for the reporting period from 1 October 2018 to 30 September 2019. Our engagement did not include any disclosures for prior years.

A. Management’s responsibility

The legal representatives of the Company are responsible for the preparation of the non-financial group report in accordance with §§ 315c in conjunction with 289c to 289e HGB.

This responsibility includes the selection and application of appropriate methods to prepare the non-financial group report as well as making assumptions and estimates related to individual disclosures, which are reasonable in the circumstances. Furthermore, the legal representatives are responsible for such internal controls that they have considered necessary to enable the preparation of a non-financial group report that is free from material misstatement, whether due to fraud or error.

B. Auditor’s declaration relating to independence and quality control

We are independent from the entity in accordance with the provisions under German commercial law and professional requirements, and we have fulfilled our other professional responsibilities in accordance with these requirements.

Our audit firm applies the national statutory regulations and professional pronouncements for quality control, in particular the by-laws regulating the rights and duties of Wirtschaftsprüfer and vereidigte Buchprüfer in the exercise of their profession [Berufssatzung für Wirtschaftsprüfer und vereidigte Buchprüfer] as well as the IDW Standard on Quality Control 1: Requirements for Quality Control in audit firms [IDW Qualitätssicherungsstandard 1: Anforderungen an die Qualitätssicherung in der Wirtschaftsprüferpraxis (IDW QS 1)].

c. Auditor's responsibility

Our responsibility is to express a limited assurance conclusion on the non-financial group report based on the assurance engagement we have performed.

We conducted our assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board (IAASB). This Standard requires that we plan and perform the assurance engagement to obtain limited assurance about whether the non-financial group report of the Company has been prepared, in all material respects, in accordance with §§ 315c in conjunction with 289c to 289e HGB. In a limited assurance engagement the assurance procedures are less in extent than for a reasonable assurance engagement and therefore a substantially lower level of assurance is obtained. The assurance procedures selected depend on the auditor's professional judgment.

Within the scope of our assurance engagement, which has been conducted between September and November 2019, we performed amongst others the following assurance and other procedures:

- Inquiries of employees regarding the selection of topics for the non-financial group report, the risk assessment and the concepts of OSRAM for the topics that have been identified as material,
- Inquiries of employees responsible for data capture and consolidation as well as the preparation of the non-financial group report, to evaluate the reporting processes, the data capture and compilation methods as well as internal controls to the extent relevant for the assurance of the non-financial group report,
- Identification of likely risks of material misstatement in the non-financial group report,
- Inspection of relevant documentation of the systems and processes for compiling, analyzing and aggregating data in the relevant areas, e.g. Environmental Protection, Health and Safety in the reporting period and testing such documentation on a sample basis,
- Analytical evaluation of disclosures in the non-financial group report,
- Inquiries and inspection of documents on a sample basis relating to the collection and reporting of selected data,
- Evaluation of the presentation of disclosures in the non-financial group report.

d. Assurance conclusion

Based on our assurance procedures performed and assurance evidence obtained, nothing has come to our attention that causes us to believe that the non-financial group report of OSRAM Licht AG for the period from 1 October 2018 to 30 September 2019 has not been prepared, in all material respects, in accordance with §§ 315c in conjunction with 289c to 289e HGB.

E. Intended use of the assurance report

We issue this report on the basis of the engagement agreed with OSRAM Licht AG. The assurance engagement has been performed for the purposes of the Company and the report is solely intended to inform the Company as to the results of the assurance engagement and must not be used for purposes other than those intended. The report is not intended to provide third parties with support in making (financial) decisions.

F. Engagement terms and liability

The “General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften [German Public Auditors and Public Audit Firms]” dated 1 January 2017 are applicable to this engagement and also govern our relations with third parties in the context of this engagement (www.de.ey.com/general-engagement-terms). In addition, please refer to the liability provisions contained there in no. 9 and to the exclusion of liability towards third parties. We assume no responsibility, liability or other obligations towards third parties unless we have concluded a written agreement to the contrary with the respective third party or liability cannot effectively be precluded.

We make express reference to the fact that we do not update the assurance report to reflect events or circumstances arising after it was issued unless required to do so by law. It is the sole responsibility of anyone taking note of the result of our assurance engagement summarized in this assurance report to decide whether and in what way this result is useful or suitable for their purposes and to supplement, verify or update it by means of their own review procedures

Munich, November 20, 2019

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft



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