



Annual Report
of OSRAM Licht Group
Fiscal Year 2018

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, 2018, as well as further information. It complies with the annual financial reporting requirements of section 37v 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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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 2018 for the OSRAM Licht Group and OSRAM Licht AG began on October 1, 2017, and ended on September 30, 2018. 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.

For the first time, we are publishing a separate non-financial Group report within the annual report in connection with the EU directive on the disclosure of non-financial information (CSR directive), which was transposed into German law in section 315b of the *Handelsgesetzbuch* (HGB—German Commercial Code) [C.5 Non-financial Group Report](#). Independently of this, we will also be reporting on sustainability issues as part of our focused corporate communications activities. This includes producing a dedicated sustainability report, which we will next publish at the start of calendar year 2019 www.osram.com/sustainability.

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Cross-references in the text

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➤➤ **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 offer lighting technology in the areas of automotive and specialty lighting, light management systems, and lighting solutions. Our product portfolio ranges from high-tech applications using semiconductor-based technologies, such as infrared and lasers, to networked, intelligent lighting solutions for buildings and urban areas.

Going forward, OSRAM will further strengthen its strategic focus on digitalization and markets of the future. In November 2018, the Managing Board adopted a new strategy for the business units, which now concentrate on opto semiconductors, automotive, and digital applications
➤ [A.2.3.7 Changes to the Organizational and Segment Structure in Fiscal Year 2019](#). This focused structure enables OSRAM to align itself even more closely with its markets, with the aim of evolving from a vertically integrated lighting expert into a high-tech photonics player. Photonics is essentially the generation, transmission, and detection of visible and invisible light and has a wide variety of possible applications. These include visualization, such as in virtual reality headsets, and sensor technology where infrared and laser light, for example, is used as the basis for self-driving vehicles. We want to make use of the entire range of potential applications for light. Digitalization and the lighting market's shift toward semiconductor-based technologies are creating new business opportunities that we intend to fully exploit.

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In fiscal year 2018, the operating activities covered by our business model were essentially organized into four business units: Opto Semiconductors, Specialty Lighting, Digital Systems, and Lighting Solutions. These four business units together with the Group headquarters constituted the OSRAM Licht Group (continuing operations) in the past fiscal year.

OSRAM employed a total of around 27.4 thousand people as of September 30, 2018 (previous year: 26.4 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 and Cree, the relevant competitors in this segment primarily come from Asia and include companies such as Samsung, 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 13.3 thousand people as of September 30, 2018 (previous year: 12.6 thousand).

Specialty Lighting (SP)

The SP Business Unit offers a broad range of lamps and systems for various sectors and special applications. In terms of revenue, automotive is SP's largest area of business with LED components and products featuring innovative laser technology—marketed by SP on behalf of OS—as well as products based on traditional lighting technologies. OSRAM has also recently begun offering XLS products (eXchangable LED LightSource) in order to extend the advantages of LED technology to the price-sensitive mass market.

In the fiscal year under review, we integrated the LED and laser technology-based automotive system (or module) original equipment manufacturer business into the newly established OSRAM CONTINENTAL entities. These companies are recognized as subsidiaries in the consolidated financial statements of OSRAM Licht AG. OSRAM CONTINENTAL focuses on digitalization in the automotive industry and its product portfolio includes customer-specific system solutions that combine the latest light and electronic technologies.

Specialty lamps and lighting systems for stage, cinema, and studio lighting form another area of business, as does the expanding market of smart LED-based plant cultivation systems (smart farming), in which targeted lighting using light at different wavelengths plus heat from infrared light are deployed to boost the plants' growth. SP also serves further special segments that, rather than using light primarily for illumination, utilize its other advantages, for example: in lamps that use high-intensity UV light to disinfect the surfaces, gases, or fluids that they irradiate.

SP is active in specialty lighting markets that typically have a smaller number of competitors than markets such as general lighting. In the automotive lighting business, SP is the market leader in all regions; its main competitors are Lumileds, General Electric, and Nichia. OSRAM and our competitor Ushio are the market leaders in specialty lighting and lamps for stages, cinemas, and studios. SP's products are marketed worldwide.

SP employed around 6.8 thousand people as of September 30, 2018 (previous year: 6.7 thousand).

Digital Systems (DS)

The DS Business Unit is a provider of 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. The growing share of the volume of DS's business accounted for by LEDs is causing some of the business to increasingly shift away from standard products toward customized business involving adaptive production processes.

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. The largest share of revenue from DS products was generated in our Americas reporting region in the past fiscal year.

DS employed around 3.5 thousand people as of September 30, 2018 (previous year: 3.1 thousand).

Lighting Solutions (LS)

The activities of the LS Business Unit comprise OSRAM's luminaires and solutions business. This includes both the production and sale of luminaires and the design and implementation of solutions for internal and external lighting, as well as the service business. Our luminaires are primarily used in customer-specific projects in the fields of street lighting and architectural design, as well as professional interior lighting applications. We also offer fully integrated lighting solutions in order to cater to the growing demand for networked, intelligent lighting.

LS operates in a highly fragmented market, both for luminaires and for solutions, that has significant local differences in terms of customer demand. Similarly, the competitors in this market vary significantly from region to region. OSRAM's rivals include Signify, which is the main competitor worldwide, along with Zumtobel and Fagerhult. EMEA accounted for the largest share of revenue generated from LS products.

LS employed around 1.5 thousand people as of September 30, 2018 (previous year: 1.8 thousand).

OSRAM conducted a strategic review of LS during fiscal year 2018. The conclusion reached was that the luminaires business and the luminaire service business of LS were no longer a good fit with OSRAM's strategy for the future. The sale of these two areas was therefore initiated. As DS and LS only do business with each other on a small scale, DS will be able to continue operating independently of LS after the sale.

A.1.1.2 Research and Development (R&D)

Innovation provides the technological foundations on which to drive OSRAM's transformation from a lighting manufacturer into a leading photonics champion and thus its firm focus on fast-growing high-tech markets. Global trends and challenges, such as the progressive automation of personal transport, the increasing importance of data security in 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 will enable these social issues to be tackled. OSRAM is actively positioning itself as a technological pioneer by developing new components and systems, such as optical sensors for capturing data about physiological functions and optical systems for three-dimensional dynamic monitoring (Light Detection And Ranging, LiDAR) of a vehicle's surroundings. We are also working on breaking into highly promising new markets and applications, including navigation within buildings and intelligent solutions for urban and vertical farming (smart farming).

Structures and Processes

Further changes have been made to the central Innovation department to help OSRAM make inroads into innovative business areas. The department's new remit is to identify and evaluate new business ideas independently and before the business units get involved. Focusing on areas of innovation identified in cooperation with the business units and regularly discussing the progress and findings of the individual topics at different levels ensures that the results achieved can be used by the business units. Strategic matters are tightly coordinated on an ongoing basis by quarterly technology boards and, at planning level, in an annual technology review. Innovation conferences are held each year to encourage a broad-based, Company-wide dialog on innovation activities. 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 central Innovation department is based at locations in Germany, the U.S.A., and China; it reports to the Chief Technology Officer (CTO).

In the reporting year, OSRAM built on its existing inhouse expertise through targeted acquisitions in strategically important fields of innovation. For example, it acquired Fluence Bioengineering, Inc., a U.S. provider of smart farming solutions, in order to strengthen its activities in the area of intelligent solutions for plant cultivation. The acquisition of VCSEL specialist Vixar, Inc., Plymouth, U.S.A. in July 2018 is reinforcing our technical component expertise in relation to vertical-cavity surface-emitting lasers (VCSEL), particularly for the fast-growing market of 3D identification technology.

To maintain our strong technological position going forward, we protect our innovations with patents and other industrial property rights as early as possible. In the fiscal year under review, we thoroughly revised the patent strategy and, by aligning it more closely with the strategic and application focus, adapted it to the changing needs of our Innovation department. Strategic patent cross-licensing agreements and other agreements on the use of patents with other players in the lighting industry also 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

In fiscal year 2018, the central Innovation department focused on preliminary development activities assigned directly to the business units and on building up strategic digital and software expertise. One of the main activities was the development of the Lightelligence software platform, an open Internet of Things (IoT) platform that will provide the technical foundations for OSRAM's future digital service business. Lightelligence is geared specifically to the requirements of applications in the area of infrastructure for lighting and buildings. The IoT platform enables comprehensive analysis of lighting- and building-related data, thereby creating added value for customers that goes far beyond that offered by intelligent light control. It has many possible applications, ranging from predictive maintenance and optimized use of space in buildings to improved plant cultivation based on customized 'light recipes'. Lightelligence made its public debut at the Light + Building trade fair in Frankfurt/Main, Germany, in March 2018.

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

- We further strengthened our leading technological position in automotive lighting by introducing the first standardized and replaceable LED light source (XLS modules, eXchangable LED LightSource). Asia is seeing particularly strong demand for the modules, which have made their volume production debut in the Toyota Corolla Sport.
- The Super Cruise driver assistance system was jointly developed by OS and Joyson Safety Systems. Infrared and LED components are the core elements of this new type of driver monitoring system for partly autonomous driving.
- LED drivers incorporating DEXAL (data exchange for advanced lighting) technology were a winner alongside other innovative products at the illustrious ADEX awards in the U.S.A.

R&D costs amounted to €421 million (previous year: €364 million), which meant that R&D intensity (R&D costs as a percentage of revenue) was, at 10.2%, slightly higher than our target level of 9%.

R&D Figures

		Fiscal year	
		2018	2017
Employees – R&D	in thousands FTE	2.7	2.5
R&D expenses	in € million	421	364
R&D intensity		10.2%	8.8%
Patents and patent applications		approx. 17,800	approx. 17,400
Patent families		approx. 6,400	approx. 6,200

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 96 subsidiaries and investees (including minority interests) [› Note 36 | 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 four 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 plus *Reconciliation to consolidated financial statements* in fiscal year 2018, as was also the case in the previous year. The DS and LS Business Units along with Digital Lumens, which constitutes a self-contained operating segment, were combined to create the Lighting Solutions & Systems (LSS) Segment. *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 27 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, Traunreut (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, OLEDs (organic light-emitting diodes), 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—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.

On September 1, 2018, the final stage of the EU Ecodesign Directive dated October 21, 2009, came into force. As a result, no more halogen light sources can be placed on the market. Lightbulbs used in the home are the main type of product affected. Products for particular purposes are excluded, for example because no adequate alternative is available. Consequently, the new rules have only a minor impact on OSRAM.

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 three key areas:

- It has been 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, which particularly affects the products of our DS, LS, and SP Business Units—and, to a lesser extent, those of the OS Business Unit. We expect the new rules, which are to come into force on September 1, 2021, to be signed off before the end of calendar year 2018. At the same time, new energy consumption labelling is to be introduced, in which the current energy efficiency classes A++ to E are to be replaced by classes A to G.
- 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, 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). Issues of particular importance to OSRAM include the use of cadmium in quantum-dot LEDs and mercury in light sources. In this context, Europe's trade association for the lighting industry negotiates regularly with the European Commission, which is likely to continue granting exemptions in the coming years, despite technological advances. These regulations particularly affect products in our OS and SP 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 more regulations similar to the RoHS Directive.

- The increasing use of digital light technologies, along with the Industry 4.0 and Internet of Things (IoT) trends, are gaining more and more momentum. This is creating whole new challenges in the regulatory environment. On the one hand, digitalization is giving rise to possible new applications and therefore presenting OSRAM with opportunities based on new products, primarily intelligent lighting solutions for smart transport, smart cities, and smart buildings, as well as solutions such as human-centric lighting for improving people's quality of life. 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 key 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 Key Performance Indicators](#).

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The analysis of our key 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 Key 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 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.

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Earnings

The primary metric used to measure our operating profit is the adjusted EBITDA margin, which is calculated by dividing adjusted EBITDA by revenue. The figure reported for 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). Moreover, the adjusted EBITDA margin is one of the targets used in determining the variable remuneration of the Managing Board. We also evaluate the operating performance of our segments on this basis. 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, see [▶ A.2.6 Reconciliation of Key Performance Indicators](#).

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Another important measure in fiscal year 2018 was diluted earnings per share (diluted EPS). This will no longer be one of OSRAM’s key performance indicators in fiscal year 2019 due to the strategic realignment and focus on growth markets.

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 Key Performance Indicators](#).

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Additional Performance Indicators

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 Key Performance Indicators](#).

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A . 2

Business Performance in 2018

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

Fiscal year 2018 was not a satisfactory year for OSRAM. Our business performance was particularly held back by the difficult and uncertain economic conditions in our Company's main sales markets as well as by unfavorable exchange rates. As a result, we were unable to meet any of the financial targets that we had set ourselves at the start of the fiscal year. Although OSRAM did generate further growth with comparable revenue of €4.1 billion, it was only at the modest rate of 1.9%. Our adjusted EBITDA fell to €605 million (previous year: €695 million). Diluted earnings per share from continuing operations declined to €1.44 in fiscal year 2018. This was partly a reflection of the high level of provisions for the raft of measures that we have initiated to boost our operating efficiency. In the long term, the growth and innovation strategy pursued by OSRAM should enable it to benefit from the rising demand for opto semiconductors. Over the past fiscal year, we therefore continued to invest heavily for the future, with significantly increased research and development costs of €421 million and a continued high level of additions to property, plant, and equipment and intangible assets of €467 million, as well as strategic acquisitions. This, combined with the sharp fall in net cash provided by operating activities, meant that we used a higher volume of cash overall, resulting in a negative free cash flow of €183 million. Thanks to the completion, on schedule, of our cutting-edge LED chip factory in Kulim and further capacity increases at OS, we strengthened our competitive position and laid the cornerstone for sustainable growth. The successful launch of OSRAM CONTINENTAL at the end of fiscal year 2018 also enabled SP to lay the foundations for growth. The strategic preparations for becoming a leading photonics champion have thus been put in place, including the planned disposal of our luminaires business and luminaire service business. Our equity ratio, which remains high at 57%, a well-balanced asset structure, and a sound financial position continue to give us an excellent basis for our Company's further growth. The Managing Board and the Supervisory Board will therefore propose an unchanged dividend of €1.11 per share to the Annual General Meeting.

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

OSRAM drew only limited benefit from the generally favorable economic conditions in fiscal year 2018. We were much more affected by developments that weighed down on the end markets with direct links to the lighting market, such as the automotive and general lighting industries. Exchange rate movements were also a significant factor in our revenue and earnings performance > [A.2.2.1 Macroeconomic Developments](#). The euro's appreciation against the U.S. dollar, especially in the first three quarters of the fiscal year, had a particularly marked effect because almost 50% of consolidated revenue is generated in U.S. dollars. Another key factor was the impact of the lighting market's evolution, i.e., the shift from traditional lighting products to LED-based components and solutions. OSRAM was faced with higher transformation costs in fiscal year 2018, particularly in connection with restructuring. The continued implementation of our growth and innovation strategy also had a noticeable effect on our results of operations and, above all, our financial position. OSRAM CONTINENTAL was successfully launched in the fourth quarter of our fiscal year, but did not play a significant part in our business performance for the fiscal year as a whole.

The revenue of around €4.1 billion reported by OSRAM for fiscal year 2018 was almost at the prior-year level. Excluding currency influences and portfolio effects, i.e., on a comparable basis, growth was 1.9% (previous year: 8.1%). The proportion of revenue attributable to LED-based products and solutions continued to rise, reaching 69% in fiscal year 2018 (previous year: 66%). Our segments presented a mixed picture in terms of revenue. OS and SP reported revenue growth (on a comparable basis), with OS in fact achieving a clear rise. However, LSS saw a modest decrease in demand. OSRAM's adjusted EBITDA (excluding special items) went down significantly year on year, from €695 million to €605 million; the figure reported for EBITDA fell even more sharply owing to the increase in special items, particularly transformation costs such as provisions for restructuring. Earnings at both OS and SP dropped significantly on an adjusted basis; LSS's earnings, which had been in negative territory in the previous year, declined significantly yet again. OSRAM's adjusted EBITDA margin amounted to 14.7%, which was significantly lower than the previous year's margin of 16.8%.

Our operating profitability was reflected in *Income OSRAM (continuing operations)*, which fell sharply to €142 million (previous year: €275 million). The significant influences in this context were negative currency translation effects and, in particular, the increase in research and development costs to €421 million (previous year: €364 million). While revenue held steady, the cost of goods sold and services rendered rose from €2,692 million to €2,800 million due to a number of factors, including ramp-up costs for the expansion of production capacity at OS in Germany, Malaysia, and China. Consequently, diluted EPS from continuing operations fell sharply to €1.44.

The decline in earnings also impacted on free cash flow, as did high levels of capital expenditure—particularly at OS—and the changes to net working capital. OSRAM's free cash flow (continuing operations) decreased to negative €183 million (previous year: positive €99 million). Our net debt amounted to €51 million as of September 30, 2018 (previous year: net liquidity of €411 million). This was due not only to the negative figure for free cash flow but also to payments for our acquisitions and equity investments. Despite the fall in profit and the distribution of a dividend, equity rose by 8.8%. This was mainly due to the increase in *Non-controlling interests* in connection with OSRAM CONTINENTAL > [A.2.5 Net Assets](#).

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

Target Achievement 2018¹⁾

	Initial position Fiscal year 2017	Expected developments Fiscal year 2018	Target achievement Fiscal year 2018	Evaluation
Comparable revenue growth (adjusted for currency translation and portfolio effects)	8.1%	We expect comparable revenue growth of 5.5%–7.5%.		Outlook not achieved and updated
		On April 24, 2018: The Managing Board of OSRAM Licht AG decided to adjust the forecast for fiscal year 2018. Based on current exchange rates, a comparable revenue increase of 3.0–5.0% is now forecast.		Outlook not achieved and updated
		On June 28, 2018: In view of the latest developments the OSRAM Managing Board decided to adjust the forecast for fiscal year 2018 and expects now a comparable revenue increase of 1.0–3.0%.	1.9%	Outlook achieved
Adjusted EBITDA/ Adjusted EBITDA margin (adjusted for special items—mainly transformation costs)	€695 million 16.8%	We anticipate adjusted EBITDA of around €700 million. This translates into an adjusted EBITDA margin of around 16%.		Outlook not achieved and updated
		On April 24, 2018: The Managing Board of OSRAM Licht AG decided to adjust the forecast for fiscal year 2018. Based on current exchange rates, adjusted EBITDA of around €640 million is now forecast.		Outlook not achieved and updated
		On June 28, 2018: In view of the latest developments the OSRAM Managing Board decided to adjust the forecast for fiscal year 2018 and expects now adjusted EBITDA of approximately €570–600 million.	€605 million 14.7%	Outlook overachieved
Earnings per share (diluted)	€2.78	We anticipate diluted earnings per share between €2.40 and €2.60.		Outlook not achieved and updated
		On April 24, 2018: The Managing Board of OSRAM Licht AG decided to adjust the forecast for fiscal year 2018. Based on current exchange rates, earnings per share (diluted) of €1.90–€2.10 are now forecast.		Outlook not achieved and updated
		On June 28, 2018: In view of the latest developments the OSRAM Managing Board decided to adjust the forecast for fiscal year 2018 and expects now earnings per share (diluted) of €1.00–€1.20.	€1.44	Outlook overachieved
Free cash flow	€99 million	We expect negative free cash flow in a range of €50 million to €150 million.		Outlook not achieved and updated
		On June 28, 2018: In view of the latest developments the OSRAM Managing Board decided to adjust the forecast for fiscal year 2018 and expects now a negative free cash flow in a range of €150 million to €200 million.	€–183 million	Outlook achieved

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

We did not achieve our original forecast for the key performance indicators of the OSRAM Licht Group (continuing operations) in fiscal year 2018. None of our segments lived up to expectations, whether in terms of revenue (on a comparable basis) or earnings.

We adjusted our original forecast on April 24, 2018. The reasons for this were the uncertain macro-economic conditions, particularly the weakness of the U.S. dollar against the euro, and the muted course of business in the first half of the fiscal year. In view of the latest developments in the automotive industry, the Managing Board of OSRAM Licht AG therefore brought forward the process of reviewing the business outlook and, on June 28, 2018, decided to adjust the forecast for fiscal year 2018 again. Restrictions on trade and distribution as well as a clear decline in demand in the automotive sector that materialized very quickly in the second half of our fiscal year resulted in palpable uncertainty. Business performance was also affected by the postponement of projects by our customers in the areas of mobile devices and smart farming. We achieved the adjusted forecast for fiscal year 2018.

A.2.1.3 Dividends

One of our objectives is to pay our shareholders an attractive dividend. Although fiscal year 2018 was unsatisfactory, the Managing Board and Supervisory Board intend to propose to the Company's Annual General Meeting that OSRAM Licht AG's unappropriated profit of €108 million for fiscal year 2018 be used to distribute a dividend of €1.11 per dividend-bearing share and that the proportion of unappropriated profit attributable to treasury shares be carried forward. Payment of this dividend is subject to approval by the Annual General Meeting on February 19, 2019. The dividend per share is the same as the one paid in fiscal year 2018.

The proposed dividend of €1.11 would equate to a total payout of around €107 million, based on the number of 96,543,891 shares outstanding as of September 30, 2018. In terms of the Group net income for fiscal year 2018 that is attributable to the shareholders of OSRAM Licht AG, which amounts to €137 million (previous year: €220 million), this would equate to an anticipated dividend payout rate of 78.3% (previous year: 48.5%). The total dividend payout may still change if treasury shares are issued or repurchased before the Annual General Meeting.

The Managing Board is seeking to maintain a stable dividend for fiscal year 2019. Our dividend policy with a target dividend payout rate of between 30% and 50% of Group net income remains in place, provided such dividends paid are in line with long-term, sustainable business performance. Net income 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

The global economic upturn is continuing, although it lost some momentum due to a slower rate of growth in developed economies at the start of the year. The situation varies from region to region. While U.S. growth accelerated in the second quarter of calendar year 2018, the eurozone's economy maintained its moderate pace and the Japanese economy bounced back from a downturn in the previous quarter. A degree of uncertainty stemming from the trade disputes may have played a role here. The emerging markets presented a mixed economic picture. Although the Chinese economy expanded rapidly, its growth rate was down on previous years and the country is caught up in the trade dispute with the U.S.A. India's strong growth at the start of the year was followed by a setback in the subsequent quarter. By contrast, economic growth in Russia and Brazil accelerated in the second quarter of calendar year 2018.

The indicators for the world's economy point to a slowdown in global economic growth in the final two quarters. In the second quarter of calendar year 2018, global industrial output increased, albeit at a slower rate, while global trade stagnated. The global purchasing managers' index compiled by IHS Markit fell for three months in succession between July and September 2018, reaching its lowest level since September 2016. Ifo's world economic climate index looked gloomier for the third quarter of 2018. The economic climate has deteriorated in virtually all regions, and economic expectations have not been this pessimistic since 2011. Global trade is affected by the current trade dispute; the majority of the 1,200 experts surveyed by the Ifo Institute of Economic Research now anticipate lower export volumes in the months ahead, particularly for the U.S.A. and China. IHS Markit forecasts global economic growth of 3.2% for calendar year 2018, which is below the previous year's growth rate of 3.3%. In its July projection, the International Monetary Fund (IMF) predicted global growth of 3.7% for 2018, which is the same rate as in 2017.

The level of growth in the global economy was relevant to the performance of the OSRAM Licht Group in fiscal year 2018 because it influenced the 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 2018](#).

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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. Compared with the past, however, the volume of commodities purchased is insignificant. As a result, price risk and fluctuations in the price of the commodities that OSRAM needs are becoming far less important. 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 27 | 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 2018. Shortages in the market for electronic components and the related increase in the price of products needed by OSRAM had a negative influence on our supply situation and the cost of materials. This was also the case for the import restrictions that took effect over the course of the fiscal year due to the imposition of customs duties. Although this prompted our suppliers to put up their prices, the overall effect was insignificant.

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There was a clear rise in the average exchange rate between the euro and the U.S. dollar for fiscal year 2018 compared with the previous year, with the euro appreciating by 7%. The euro surged in the first quarter of calendar year 2018, climbing by 13% compared with the same period of 2017. Over the course of the fiscal year as a whole, European products therefore became more expensive in global markets, which affected exports from the eurozone. As a substantial proportion of our revenue is generated in U.S. dollars, this trend impacted on our business performance in the past fiscal year. Overall, the negative currency effects on our net income were significant.

A.2.2.2 The Lighting Market in Fiscal Year 2018

Our assessments of the global lighting market are based on forecasts by IHS Markit, Yole Développement, Strategies Unlimited, and internal analyses.

The lighting market saw further structural growth in fiscal year 2018, over and above that of the economy as a whole. In particular, the market segments served by OSRAM—opto semiconductors in OS, light sources for the automotive sector and specialty lighting for industrial applications in SP, components for professional general lighting applications in DS, and professional solutions and services in selected regions in LS—together generated mid-single-digit percentage growth.

At roughly 1%, the rate of growth in automotive production in fiscal year 2018 is predicted to be clearly below that of the previous year. This slower growth is attributable to inventory levels being reduced in North America and China and to the slump in production in Europe as a result of the sluggish switch to certification in accordance with the Worldwide Harmonized Light Vehicle Test Procedure (WLTP), a standard for measuring fuel consumption.

Despite these effects, the automotive lighting market achieved healthy single-digit percentage growth. Within this overall figure, demand for products based on traditional technologies contracted, whereas LED products registered upper-single-digit to double-digit percentage growth. Growth was underpinned by vehicles being fitted with higher-value equipment as a result of the use of new automotive lighting technologies and the related rise in the value of the lighting products used in each vehicle.

According to the forecasts, global capital expenditure in the construction sector is set to rise by around 3% in calendar year 2018 compared with the previous year. However, growth of capital expenditure on the construction of buildings is 2%, which is below the corresponding figure for infrastructure construction of 4% and thus below the general rate of economic growth. Moreover, the construction sector is expected to expand by just 1% in western Europe. As a result, demand for general lighting products and solutions was muted in fiscal year 2018.

Semiconductor-based products continued to experience significant double-digit growth rates in the professional general lighting market. Conversely, there was a clear decline in the market for products based on traditional lighting technologies. This reflects the accelerated pace of transformation in the lighting market toward energy-efficient and innovative technologies. Moreover, networked lighting electronics are generating significant growth as a result of product requirements relating to energy savings and to data-based add-on applications. New applications beyond traditional general lighting are increasingly playing an important role. The market for LED plant lighting, for example, is seeing clear double-digit growth.

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 SP, are dependent—with an increasing emphasis on the Asian market [▶ A.2.3.3 Opto Semiconductors](#), [▶ A.2.3.4 Specialty Lighting](#). The trend in the general lighting segment also had a positive influence on revenue from this part of OS's business [▶ A.2.3.3 Opto Semiconductors](#). The effect of the increase in capital expenditure in the construction sector and the trend in the professional general lighting business varied significantly from region to region at LSS [▶ A.2.3.5 Lighting Solutions & Systems](#).

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

'Diamond' Technology, Innovation, and Growth Initiative

At the beginning of fiscal year 2016, we used the Diamond program to set the course for OSRAM's medium-term development. In fiscal year 2018, we forged ahead with capital expenditure on growth, technology, and innovation. The bulk of this capital expenditure went on property, plant, and equipment, as had also been the case in the previous year. We also allocated significant sums for acquisitions and strategic equity investments. In addition, our research and development costs again increased significantly.

The temporary Diamond program has now ended owing to our strategic realignment [▶ A.2.3.7 Changes to the Organizational and Segment Structure in Fiscal Year 2019](#). This is also the reason why we are no longer pursuing our '5.1.5' targets for fiscal year 2020, which involved achieving revenue of around €5 billion to €5.5 billion, (adjusted) EBITDA of €0.9 billion to €1 billion, and thus earnings per share of approximately €5. We will continue to pursue our growth and innovation strategy, but without a specific initiative.

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Capital Expenditure

In the past fiscal year, OSRAM maintained a high level of capital expenditure on intangible assets and on property, plant, and equipment of around €467 million (previous year: €537 million). The bulk of the spending was again accounted for by property, plant, and equipment. Most of this was in OS, where it was used to expand capacity for manufacturing LED chips. Our largest project, the construction of an LED chip factory in Kulim, Malaysia, was successfully completed in the first quarter of the fiscal year. We brought the factory on stream in November 2017, both on schedule and within budget. As of September 30, 2018, contractual obligations to purchase property, plant, and equipment amounted to €112 million (previous year: €316 million).

Acquisitions and Strategic Equity Investments

In fiscal year 2018, OSRAM invested a total of €181 million in the acquisition of companies and a further €10 million to purchase equity investments.

- In October 2017, OSRAM made a strategic investment via its venture capital arm, Fluxunit, in beaconsmind AG, Zurich, Switzerland. This start-up offers intelligent retail software with a number of features, including the ability for merchants to target customers in a personalized manner.
- Also in October 2017, OSRAM invested in Blickfeld GmbH, Munich, Germany, through Fluxunit. This company develops and manufactures LiDAR (Light Detection And Ranging) systems for environment recognition by autonomous machines, particularly self-driving vehicles. The equity investment was increased in August 2018.
- In November 2017, OSRAM acquired, through Fluxunit, an equity investment in GoodIP GmbH, Munich, Germany, which is developing a recommendation platform for patents. Patent holders list their intellectual property on the platform, and the community reviews the patents. Interested parties can read about the available patents on the platform and submit offers to buy or license them.
- In December 2017, OSRAM purchased the operating business of Pacific Light Technologies Corp., Portland, U.S.A. This acquisition has strengthened OS's technological position in respect of quantum-dot light-emitting diodes (QLED).

- In March 2018, we contractually agreed to purchase the shares in BAG electronics GmbH, Arnsberg, Germany. Upon the transfer of beneficial ownership on July 2, 2018, DS completed its portfolio of electronic ballasts for cutting-edge lighting technology and broadened its sales potential in both Germany and Asia.
- At the end of March 2018, OSRAM and Continental contractually agreed to pool their expertise in lighting, light management, and electronics by setting up OSRAM CONTINENTAL GmbH, which is run as a subsidiary of OSRAM Licht AG. OSRAM CONTINENTAL, which is part of SP, commenced operations on July 2, 2018. It was launched with around 1,500 employees worldwide working in nine companies at 15 locations. The headquarters is in Munich. OSRAM and Continental have contributed development and sales locations, and OSRAM has also brought on board production sites.
- In May 2018, Fluence Bioengineering, Inc., Austin, U.S.A. was acquired. This company specializes in LED-based plant cultivation systems. As a result of the acquisition, SP has expanded its smart farming portfolio.
- Also in May 2018, we made an equity investment via Fluxunit in smart farming start-up Motorleaf Inc., Montreal, Canada. This fledgling company develops artificial intelligence for greenhouse and indoor farming solutions.
- In July 2018, we acquired Vixar, Inc., Plymouth, U.S.A. The acquisition of this specialist in vertical-cavity surface-emitting lasers (VCSEL) supplements OS's expertise in optical identification technology.
- In September 2018, OSRAM also invested in iThera Medical GmbH, Munich, Germany, through Fluxunit. This start-up is involved in optoacoustic imaging for medical diagnostics and has developed a laser-based technology called multispectral optoacoustic tomography.

For further information on these transactions, see [▶ Note 3 | Acquisitions, Disposals, and Discontinued Operations](#) in B.6 Notes to the Consolidated Financial Statements.

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R&D Costs

We significantly increased our R&D costs to €421 million (previous year: €364 million). Due to the muted growth in revenue [▶ A.2.3.1 Revenue](#), among other factors, R&D intensity was significantly higher than our targeted level of 9% in fiscal year 2018. The increase in R&D costs was almost exclusively attributable to OS. 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.

OSRAM also faced difficult market conditions in fiscal year 2018. In response, the Managing Board initiated an extensive package of measures. Besides the streamlining of administrative functions worldwide, which should reduce the related costs by around 20%, further operational and structural programs have been 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 basis in fiscal year 2017.

Back in July 2017, we reached agreement with the employee representatives on the key points set out in the 'OSRAM future concept' for implementing our high-tech strategy at our Company's German locations. In July 2018, a reconciliation of interests was agreed with the employee representatives in connection with the reorganization of the German sites, including in relation to the latest measures aimed at improving our competitive position (outlined above).

In the fiscal year under review, these measures notably resulted in transformation costs totaling €101 million (previous year: €57 million) that impacted on EBITDA. These expenses incurred in the SP and LSS Segments as well as in *Corporate items*.

Although the steps taken in the luminaires business (LS Business Unit) in the previous year with the aim of improving our competitive position did help to stabilize our results of operations, the absence of a fundamental reversal of the fall in demand made it necessary to revise the strategy for LS. After resolving to sell the luminaire service business in the U.S.A., the Managing Board subsequently decided to dispose of the entire luminaires business and has begun the process of selling it.

A.2.3 Results of Operations

A.2.3.1 Revenue

Revenue by Segments

in € million

	Fiscal year		Change			
	2018	2017	nominal	therein currency	therein portfolio	comparable
Opto Semiconductors	1,725	1,685	2.4%	(5.0)%	1.5%	5.8%
Specialty Lighting	2,224	2,312	(3.8)%	(4.9)%	0.4%	0.7%
Lighting Solutions & Systems	973	989	(1.7)%	(4.5)%	4.4%	(1.5)%
Reconciliation to consolidated financial statements	(807)	(858)	(6.0)%	(4.6)%	2.4%	3.3%
OSRAM (continuing operations)	4,115	4,128	(0.3)%	(4.9)%	2.7%	1.9%

- OSRAM's revenue growth primarily held back by challenging market conditions; decrease in demand from the automotive industry, postponement of projects by our customers in the areas of mobile devices (particularly smartphones) and smart farming, and a slowdown in the general lighting sector in the U.S.A. and Europe
- Reported revenue down slightly year on year; modest level of growth on a comparable basis
- Moderate negative currency translation effects, primarily as a result of the appreciation in the average value for the year of the euro against the U.S. dollar
- Positive portfolio effects, mainly due to the acquisitions in the previous year (particularly Digital Lumens)
- Modest nominal growth and clear comparable growth at OS; modest increase at SP on a comparable basis; modest decrease at LSS (nominal and comparable)

Revenue by Technology

- Fall in revenue from traditional lighting products, especially electronic ballasts and automotive products
- OSRAM's revenue from LED-based products came to €2,859 million; the LED proportion was thus 69.5% (previous year: 65.9%)
- Revenue from traditional products fell by a total of 9.3%, whereas revenue from the LED business went up by 7.8% (both on a comparable, year-on-year basis)

Revenue by Regions

(by customer location)
 in € million

	Fiscal year		Change			
	2018	2017	nominal	therein currency	therein portfolio	comparable
EMEA	1,514	1,553	(2.5)%	(0.9)%	3.4%	(5.0)%
therein Germany	659	664	(0.8)%			
APAC	1,469	1,445	1.7%	(6.5)%	0.2%	8.0%
therein China (including Hong Kong) and Taiwan	883	837	5.5%			
Americas	1,132	1,129	0.2%	(8.3)%	4.7%	3.8%
therein U.S.A.	904	880	2.7%			
OSRAM (continuing operations)	4,115	4,128	(0.3)%	(4.9)%	2.7%	1.9%

- Considerable differences in comparable revenue growth in OSRAM's reporting regions; clear growth in APAC and moderate decline in EMEA
- Sustained regional trend over the past few years with regard to the proportion of total revenue: further rise to 35.7% for APAC (previous year: 35.0%) and a reduction from 37.6% in the previous year to 36.8% for EMEA; share attributable to the Americas was 27.5% (previous year: 27.4%)
- Negative impact of currency translation in all reporting regions, but most pronounced effect in the Americas; moderate positive portfolio effects both in the Americas and in EMEA

EMEA Region

- Moderate 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
- Significant decrease in revenue on a comparable basis at LSS, which was more badly affected than SP and OS

APAC Region

- Modest rise in reported revenue; if the currency translation effects are excluded, there was clear growth on a comparable basis and negligible portfolio effects
- All segments contributed to comparable growth, with LSS generating a substantial increase and OS achieving a clear rise

Americas Region

- Reported revenue on a par with previous year; this region was most affected by exchange rates and portfolio effects but, overall, achieved a moderate increase in adjusted revenue
- Revenue growth on a comparable basis driven by all segments; greatest nominal and comparable growth at OS

A.2.3.2 Earnings

Earnings

in € million

	Fiscal year		Change
	2018	2017	nominal
EBITDA segments			
Opto Semiconductors	417	473	(11.8)%
Specialty Lighting	239	317	(24.6)%
Lighting Solutions & Systems	(81)	(72)	13.4%
Reconciliation to consolidated financial statements	(98)	(97)	0.7%
EBITDA OSRAM (continuing operations)	477	621	(23.3)%
EBITDA margin	11.6%	15.1%	(350) bps
Special items ¹⁾	(128)	(74)	73.1%
therein transformation costs	(101)	(57)	77.9%
therein acquisition related costs	(24)	(15)	60.0%
Adjusted EBITDA	605	695	(13.0)%
Adjusted EBITDA margin	14.7%	16.8%	(210) bps
Amortization, depreciation, and impairments	(268)	(224)	19.5%
Net financial income or expense ²⁾	(11)	(8)	38.7%
Income before income taxes OSRAM (continuing operations)	197	389	(49.2)%
Income taxes	(55)	(114)	(51.7)%
Income OSRAM (continuing operations)	142	275	(48.2)%
Loss discontinued operation, net of tax	(2)	(51)	(96.5)%
Net income	141	224	(37.2)%

1) Of which €49 million was attributable to LSS, €51 million to SP, and €1 million to OS in fiscal year 2018; impact of €27 million in *Corporate items (reconciliation to the consolidated financial statements)*.

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

EBITDA of OSRAM (continuing operations)

- At €605 million, EBITDA adjusted for special items was down significantly year on year
- Decrease mainly caused by negative currency effects (primarily the change in the euro/U.S. dollar exchange rate), a significant rise in R&D costs, and start-up costs for the expansion of production capacity at OS in Germany, Malaysia, and China
- This was reflected in OSRAM's adjusted EBITDA margin, which contracted by 210 bps
- Earnings declined in all segments; significant decreases at OS and SP; further deterioration at LSS, which had also reported a loss in the previous year
- Sharp year-on-year rise in special items to €128 million, of which more than two-thirds was attributable to SP and LSS
- Special items resulted almost exclusively from transformation- and acquisition-related costs; almost two-thirds of the transformation costs consisted of personnel-related restructuring expenses > [Note 4 | Personnel-related Restructuring Expenses](#) in B.6 Notes to the Consolidated Financial Statements
- Main impact of special items on *Cost of goods sold and services rendered* and on *Marketing, selling, and general administrative expenses* but also a more modest effect on *Research and development costs*
- Clear reduction in gross profit to €1,315 million (previous year: €1,436 million), predominantly due to the aforementioned currency effects and the increase in depreciation of property, plant, and equipment; gross profit margin (gross profit as a percentage of revenue) therefore contracted by 280 bps

- Significant rise in R&D costs to €421 million (previous year: €364 million), mainly due to our ongoing innovation strategy; R&D costs expressed as a percentage of revenue stood at 10.2%, a significant increase on the previous year
- Marketing, selling and general administrative expenses were virtually unchanged at €702 million (previous year: €697 million) despite the sharp rise in special items, and also held more or less steady when expressed as a percentage of revenue
- In line with the adjusted EBITDA trend, reported EBITDA went down by €144 million, although this was a more pronounced fall due to the change in special items

Income OSRAM (continuing operations)

- Significant rise in depreciation, amortization, and impairment due to our capital expenditure on property, plant, and equipment (primarily new production capacity at OS)
- At 27.9% (previous year: 29.3%), the effective tax rate was moderately below the prior-year rate
- Sharp drop in income from continuing operations to €142 million
- Diluted earnings per share of OSRAM (continuing operations) thus fell to €1.44 (previous year: €2.78)

Net Income

- Net income included expenses directly connected with the sale of LEDVANCE that were not incurred until fiscal year 2018; they were immaterial overall
- The loss from the discontinued operation in the previous year had been largely due to currency losses relating to the deconsolidation of LEDVANCE [▶ Note 3 | Acquisitions, Disposals, and Discontinued Operations](#) in B.6 Notes to the Consolidated Financial Statements
- Diluted earnings per share fell substantially to €1.42 (previous year: €2.26)

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A.2.3.3 Opto Semiconductors

Segment Data OS

in € million

		Fiscal year		Change	
		2018	2017	nominal	comparable
Total revenue ¹⁾		1,725	1,685	2.4%	5.8%
External revenue		861	831	3.7%	
EBITDA		417	473	(11.8)%	
EBITDA margin		24.2%	28.1%	(390) bps	
Employees as of September 30	in thousands FTE	13.3	12.6	5.4%	

1) Including intersegment revenue of €864 million (previous year: €854 million).

Revenue

- Difficult market conditions held back OS's revenue growth; muted demand in the automotive business, mainly because of the general situation in the automotive sector and, in part, due to the allocation situation following capacity shortages in the previous year; postponement of projects by our customers in the areas of mobile devices (particularly smartphones) and smart farming
- Reported revenue only modestly higher than in the previous year, greater increase in revenue on a comparable basis; moderate negative currency translation effects
- Increases in all reporting regions except EMEA on a comparable basis; fastest growth (double-digit percentage rise) in the Americas
- Strongest growth rate (comparable) in general lighting (double-digit percentage rise), moderate growth in the automotive business, and clear growth in the industrial and mobile device business

- The biggest absolute increases were in the automotive business and in general lighting

Earnings

- EBITDA fell significantly year on year to €417 million (previous year: €473 million); negligible level of special items
- Decrease mainly attributable to exchange rates, innovation, and expansion; following the small positive impact of exchange rates in the previous year, fiscal year 2018 was characterized by considerable negative currency effects (primarily due to the appreciation of the U.S. dollar against the euro), substantially higher R&D costs (increase of 260 bps when expressed as a percentage of revenue), and ramp-up costs for the expansion of production capacity at OS in Germany, Malaysia, and China
- The EBITDA margin was therefore down significantly compared with fiscal year 2017

Assessment of Business Performance

- As expected, slower revenue growth than in the previous year; also lower than our original forecast at the start of the fiscal year due to the challenging market conditions
- Our earnings performance also not in line with our expectations, neither with regard to absolute EBITDA nor in terms of profitability
- Unsatisfactory fiscal year from a financial perspective; however, we are extremely well placed to unlock long-term development opportunities in our sales markets, primarily due to successful expansion of our production capacity

A.2.3.4 Specialty Lighting

Segment Data SP

in € million

		Fiscal year		Change	
		2018	2017	nominal	comparable
Total revenue		2,224	2,312	(3.8)%	0.7%
EBITDA		239	317	(24.6)%	
EBITDA margin		10.8%	13.7%	(300) bps	
Employees as of September 30	in thousands FTE	6.8	6.7	2.3%	

Revenue

- SP's business performance heavily influenced by the difficult situation in the automotive business; OSRAM CONTINENTAL launched at start of July 2018 without any noticeable impact on the past fiscal year
- Reported revenue lower than in the previous year; modest increase in business on a comparable basis
- Positive portfolio effects of 0.4% outweighed by negative currency translation effects of 4.9%
- Moderate comparable revenue growth in APAC and the Americas; moderate reduction in EMEA
- Performance influenced by increases in LED-based products and a clear decrease in revenue from traditional products; LED products accounted for 53% of SP's revenue in fiscal year 2018 (previous year: 49%)
- Modest rise in revenue from the automotive business (comparable); modest decline in revenue from special applications business (comparable)
- In the automotive business, the increase attributable to LED products was greater than the decrease attributable to traditional products; moderate growth in revenue from LED components and a clear rise in the aftermarket business in APAC and the Americas (in both the traditional and the LED-based businesses in unregulated markets)

Earnings

- EBITDA decreased substantially to €239 million (previous year: €317 million); adjusted EBITDA was down significantly year on year at €290 million (previous year: €339 million)
- The EBITDA margin and adjusted EBITDA margin fell accordingly, reaching 10.8% and 13.0%, respectively (previous year: 13.7% and 14.7%)
- The decline was primarily the result of negative currency effects, although the revenue mix was also a factor (smaller proportion of traditional business and larger proportion of LED component business); the reduction was mitigated by a gain of €15 million on the sale of the electro hot air devices business and by measures to improve efficiency
- Sharp rise in special items to €51 million (previous year: €22 million), in particular as a result of transformation costs for restructuring and acquisition-related costs in connection with OSRAM CONTINENTAL

Assessment of Business Performance

- Market conditions were challenging for the automotive business and we did not achieve our revenue targets
- The level of earnings and the margin were also worse than anticipated at the start of the fiscal year, mainly due to high negative currency effects
- Given the general market conditions, fiscal year 2018 was only partly satisfactory; the launch of OSRAM CONTINENTAL represented a significant strategic milestone that puts us in a strong position for the future; we also initiated measures in relation to the corporate functions and SP's plant network in order to further improve our cost situation and thus our competitiveness

A.2.3.5 Lighting Solutions & Systems

Segment Data LSS

in € million

		Fiscal year		Change	
		2018	2017	nominal	comparable
Total revenue ¹⁾		973	989	(1.7)%	(1.5)%
EBITDA		(81)	(72)	13.4%	
EBITDA margin		(8.4)%	(7.3)%	(110) bps	
Employees as of September 30	in thousands FTE	5.1	5.0	3.7%	

1) Previous year's figure included intersegment revenue of €41 million from cross-selling agreements with LEDVANCE.

Revenue

- Poor market conditions, especially in the EMEA region; more challenging competitive situation; shortage of electronic components had an adverse effect; fiscal year not yet affected by acquisition of the BAG Group
- Slightly lower segment revenue than in the previous year, on both a comparable and a reported basis
- EMEA's revenue (comparable) fell by around 11.4%, due in part to a large-scale project in the previous year; substantial rise in APAC and a moderate year-on-year increase in the Americas
- The proportion of the segment's total revenue accounted for by LEDs went up again, reaching 84.7% (previous year: 76.0%); competitive and pricing pressure, especially in connection with conventional control gear

- Clear reduction in business with lighting systems and control gear; significant increase in revenue from LED business was unable to make up for the substantial fall in revenue from conventional control gear; clear decrease in revenue in EMEA
- Moderate increase in comparable revenue in the luminaires and solutions business, modest growth in reported revenue; clear fall in revenue in the EMEA region; decline in revenue from indoor lights was mitigated by the business with dynamic and intelligent lighting systems and lighting installations

Earnings

- Having already been in negative territory in the previous year (€–21 million), adjusted EBITDA slipped further to reach €–33 million; adjusted EBITDA margin was –3.3% (previous year: –2.1%)
- The loss attributable to lighting systems and control gear was essentially due to the fall in volume and to pricing pressures
- The luminaires and luminaire solution business again reported a loss, albeit smaller than in the previous year; restructuring measures aimed at improving profitability made an impact
- At €49 million, special items at LSS were almost at the prior-year level (previous year: €51 million)
- Reported EBITDA fell significantly again; the negative figure for the EBITDA margin was over 8%

Assessment of Business Performance

- The LSS 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; fiscal year 2018 was therefore not satisfactory
- A variety of measures have already been put in place to improve the cost and competitive situation for lighting systems and control gear
- The process of selling the North American service business got under way in the middle of fiscal year 2018; in the third quarter of the fiscal year, the Managing Board also decided to separate the luminaires business

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 €–97 million reported under *Corporate items and pensions* was on a par with the prior year (previous year: €–96 million)
- *Corporate items* at €–92 million (previous year: €–89 million); *Pensions* at €–5 million (previous year: €–7 million)

- Sharp year-on-year rise in special items to €–27 million (previous year: €–1 million), primarily due to transformation costs in connection with restructuring at the Group headquarters
 > [Note 4 | Personnel-related Restructuring Expenses](#) in B.6 Notes to the Consolidated Financial Statements
- Adjusted for special items, the negative EBITDA figure for *Corporate items and pensions* decreased from €–96 million in the previous year to €–71 million

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A.2.3.7 Changes to the Organizational and Segment Structure in Fiscal Year 2019

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 will be on opto semiconductors, the automotive sector, and digital applications. The related organizational changes, described below, are to be implemented by December 31, 2018:

- The SP Business Unit will be renamed Automotive (AM) and will consist solely of the automotive business involving traditional lighting technologies plus OSRAM CONTINENTAL
- The LS Business Unit will be dissolved; the business involving lighting solutions for buildings (Traxon) will be transferred to the new DI Business Unit (see below) and we will be selling the remainder of the luminaires and luminaire service business > [A.2.2.3 Other Significant Events Responsible for the Course of Business](#)
- The DS Business Unit will be renamed Digital (DI) and, from fiscal year 2019, encompasses the following activities in addition to its existing areas of business:
 - The Specialty Lighting business of the former SP Business Unit, including stage, cinema, and studio lighting, and further areas such as smart LED-based plant cultivation systems (smart farming)
 - The business involving lighting solutions for buildings (Traxon), previously part of the LS Business Unit
 - Digital Lumens, previously a self-contained operating segment within LSS

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From the start of fiscal year 2019, the segment reporting of the OSRAM Licht Group will be split into three reportable segments—Opto Semiconductors (unchanged, OS), Automotive (AM), and Digital (DI)—plus Reconciliation to consolidated financial statements; the former LSS reporting segment has been dissolved.

OSRAM is aiming for the following target corridors for 2020 onward in the segments:

Target corridors 2020+

	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

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

1) AM market position for light sources incl. LEDs; DI for Electronics & Components.

2) This does not represent segment guidance for fiscal year 2019; target corridors for AM and DI represent possible averages of the period between 2020 and 2023.

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 company level 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 27 | Financial Risk Management](#) and [› Note 18 | 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
	2018	2017	nominal
Free cash flow segments			
Opto Semiconductors	(145)	62	n.a.
Specialty Lighting	176	235	(25.1)%
Lighting Solutions & Systems	(107)	(68)	56.4%
Reconciliation to consolidated financial statements	(108)	(130)	(17.3)%
Free cash flow OSRAM (continuing operations)	(183)	99	n.a.
therein: Additions to intangible assets and property, plant, and equipment	467	537	(13.0)%
Net cash OSRAM (continuing operations) provided by (used in)			
Operating activities	283	636	(55.4)%
Investing activities	(625)	(305)	104.5%
Financing activities	72	(139)	n.a.

Free Cash Flow of OSRAM (continuing operations)

- In contrast with the previous year, free cash flow was in negative territory; this was due to the decline in earnings and the continued capital expenditure on growth, particularly additions to property, plant, and equipment but also to intangible assets
- Moreover, the capital commitment period for net operating working capital increased significantly, leading to outflows of cash; the average commitment period (days outstanding) for OSRAM's net operating working capital was 57 days in the past fiscal year, compared with 48 days in the previous year [▶ A.2.6 Reconciliation of Key Performance Indicators](#)
- Free cash flow at OS influenced by capital expenditure of €393 million (previous year: €443 million), primarily in connection with the new LED chip factory in Kulim, Malaysia, as well as an increase in capacity in Germany and China, and by the rise in net operating working capital
- SP's free cash flow was substantially lower than in the previous year even though the volume of capital expenditure fell significantly; the main cause was the decrease in earnings
- The negative free cash flow seen at LSS in the previous year increased sharply again; this was due to the reduction in earnings and to outflows of cash in connection with restructuring (transformation costs), which also rose sharply
- At €467 million, the total capital expenditure of OSRAM (continuing operations) remained at a high level

Additions to Intangible Assets and Property, Plant, and Equipment

by Segments
in € million

	Fiscal year	
	2018	2017
Opto Semiconductors	393	443
Specialty Lighting	49	57
Lighting Solutions & Systems	23	35
Corporate items and pensions	2	2
Additions to intangible assets and property, plant, and equipment OSRAM (continuing operations)	467	537

by Regions
in € million

	Fiscal year	
	2018	2017
EMEA	226	196
APAC	227	315
Americas	14	26
Additions to intangible assets and property, plant, and equipment OSRAM (continuing operations)	467	537

Other Investing Activities and Disposals at OSRAM (continuing operations)

- Total cash outflow of €181 million attributable to acquisitions
- Of this total, €56 million was attributable to Fluence Bioengineering, Inc., Austin, U.S.A., €51 million to Vixar Inc., Plymouth, U.S.A., and €26 million to BAG electronics GmbH, Arnsberg, and its subsidiaries BAG Electronics Inc., Manila, Philippines, and TRILUX Lighting Inc., Mamplasan, Philippines; another €7 million went on the acquisition of the operating business of Pacific Light Technologies Corp., Portland, U.S.A., while €38 million was paid for the control and name rights for OSRAM CONTINENTAL

- Investments in financial assets of €10 million predominantly related to the acquisition of shares in Blickfeld GmbH, Munich, GoodIP GmbH, Munich, and beaconsmind AG, Zurich, Switzerland, all of which are accounted for under the equity method
- Proceeds and payments from the sale of business units less outgoing cash and cash equivalents included €17 million from the sale of the electro hot air devices business and €5 million from the final installment of the purchase price for LEDVANCE

For further information on the transactions mentioned, see [› Note 3 | Acquisitions, Disposals, and Discontinued Operations](#) in B.6 Notes to the Consolidated Financial Statements.

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Cash Flows of the Discontinued Operation

- Net cash used for operating, investing, and financing activities totaled €4 million in fiscal year 2018 (previous year: €117 million)

A.2.4.3 Financing and Liquidity Analysis

Net Debt/Net Liquidity

in € million

	September 30,	
	2018	2017
Short-term debt and current maturities of long-term debt	233	16
+ Long-term debt	152	184
Total debt	385	200
Cash and cash equivalents	333	609
+ Available-for-sale financial assets	0	2
Total liquidity	333	610
Net debt/net liquidity	(51)	411
– Pension plans and similar commitments	162	150
Adjusted net debt/net liquidity	(213)	261

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

- Net cash of €179 million drawn down from the revolving credit facility
- Total dividend payment of €107 million (previous year: €97 million) to shareholders of OSRAM Licht AG; increased net cash outflow owing to dividend per share rising from €1.00 to €1.11
- Net cash provided by financing activities of the continuing operations amounted to €72 million (previous year: net cash used of €139 million)

Debt and Net Liquidity

- The volume of the loan from the European Investment Bank reduced from €192 million to €184 million following scheduled repayments
- As of September 30, 2018, €179 million was drawn down under the revolving credit facility (previous year: €0 million); OSRAM also had at its disposal unused lines of credit totaling €771 million as of September 30, 2018 (previous year: €950 million)
- *Cash and cash equivalents* fell from €609 million to €333 million, while the level of debt increased; consequently the statement of financial position showed a net debt rather than net liquidity as of the reporting date
- Net debt/net liquidity divided by EBITDA is used as a key performance indicator as part of debt management and for contractual obligations under loan agreements (financial covenants) [› Note 18 | Debt and › Note 25 | Additional Disclosures on Capital Management](#) in B.6 Notes to the Consolidated Financial Statements

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Development of Net Liquidity/Net Debt

in € million

	Fiscal year 2018
Net liquidity as of September 30, 2017	411
EBITDA OSRAM (continuing operations)	477
Change in net working capital ¹⁾	(108)
Change in other assets and liabilities	(5)
Income taxes paid	(76)
Other cash flows from operating activities ²⁾	(5)
Additions to intangible assets, property, plant, and equipment	(467)
Free cash flow OSRAM (continuing operations)	(183)
Acquisitions, net of cash acquired	(181)
Purchases of investments	(10)
Proceeds and payments from sales of business activities, net of cash and cash equivalents disposed of	22
Dividends paid to shareholders of OSRAM Licht AG	(107)
Other investing and financing activities OSRAM (continuing operations) ³⁾	1
Cash flows from operating, investing and financing activities discontinued operation	(4)
Net debt as of September 30, 2018	(51)

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 for) operating activities.

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

Payments from Third Party Contractual Obligations¹⁾

in € million

	Total	Less than 1 year	1 to 5 years	After 5 years
Debt ²⁾	388	234	124	30
Purchase obligations	599	542	56	-
Operating leases	243	50	134	59
Total contractual obligations	1,231	826	314	90

1) Future cash outflows resulting from contractual obligations in existence as of September 30, 2018.

2) Including interest payments.

- For details on the breakdown of debt, see [Note 18 | 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

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: €1,087 million (previous year: €1,810 million)
- Fair value of plan assets: €946 million (previous year: €1,675 million)
- Significant decrease in accounting risks following settlement of current pension commitments in the U.S.A.; commitments down by €683 million and plan assets down by €678 million
- Underfunding had risen to €141 million as of September 30, 2018 (previous year: €135 million); proportion of commitments covered by plan assets (including unfunded commitments): 87% (previous year: 93%); proportion of commitments in funded plans covered by plan assets: 98% (previous year: 99%)
- The change in the funded status was attributable to various positive and negative factors, in particular the overall increase in the proportion of unfunded commitments, a decrease in the defined benefit obligation in the U.S.A. owing to higher discount rates, and a slight fall in plan assets in Germany

A.2.5 Net Assets

A.2.5.1 Statement of Financial Position Analysis

Assets

- Total assets of the OSRAM Licht Group as of September 30, 2018, were significantly higher than at the end of fiscal year 2017
- The changes in the structure of OSRAM's assets were primarily attributable to the continuation of our innovation path, which mainly impacted on *Goodwill* and *Property, plant, and equipment*
- *Cash and cash equivalents* fell by almost a half to €333 million (previous year: €609 million) due to free cash flow being in negative territory > [A.2.4.2 Cash Flow and Capital Expenditure Analysis](#) and due to the net cash outflow in connection with acquisitions, equity investments, and the dividend payment
- Clear increase in Inventories of €81 million; rise across all segments, but particularly at OS and SP
- Current assets were thus down by a total of around €100 million year on year, whereas non-current assets went up by approximately 28%
- Goodwill climbed by €221 million to €369 million on the back of acquisitions
- Property, plant, and equipment rose by €225 million to €1.6 billion as a result of our capital expenditure on new manufacturing capacity
- The proportion of total assets accounted for by non-current assets rose significantly to around 58% (previous year: 50%) as a consequence of the changes described above

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Liabilities and Equity

- Short-term debt and current maturities of long-term debt advanced by more than €200 million, primarily owing to the €179 million drawdown from a credit facility > [Note 18 | Debt](#) in B.6 Notes to the Consolidated Financial Statements
- Substantial rise in current liabilities and provisions overall
- *Long-term debt* fell to €152 million (previous year: €184 million) as a result of the scheduled repayment of the loan from the European Investment Bank and reclassifications to short-term debt > [Note 18 | Debt](#) in B.6 Notes to the Consolidated Financial Statements
- Non-current liabilities and provisions on a par with the previous year overall
- Equity up by €216 million, boosted by net income of €141 million and changes in equity of €200 million resulting from portfolio transactions, the main factor in which was the increase in

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Non-controlling interests in connection with OSRAM CONTINENTAL; these positive factors were partly offset by deductions from equity, which mainly comprised the dividend payment to the shareholders of OSRAM Licht AG of €107 million

- Equity ratio (*Total equity to total assets*) of 57% as of September 30, 2018, was slightly lower than the figure as of September 30, 2017 (58%), because of the higher level of total assets

Balance Sheet Structure

in € million

	September 30,		Change
	2018	2017	nominal
Assets			
Current assets	1,984	2,100	(5.5)%
therein assets held for sale	49	2	>200%
Non-current assets	2,746	2,137	28.5%
Total assets	4,730	4,238	11.6%
	September 30,		Change
	2018	2017	nominal
Liabilities and equity			
Current liabilities	1,555	1,280	21.5%
therein liabilities associated with assets held for sale	12	0	>200%
Non-current liabilities	498	498	0.1%
Equity	2,676	2,460	8.8%
Total liabilities and equity	4,730	4,238	11.6%

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
- Intangible assets were created, in particular, as a result of R&D activities, spending on which amounted to €421 million (previous year: €364 million)
- 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 noncancellable 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 22 | 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 3 | Acquisitions, Disposals, and Discontinued Operations](#) in B.6 Notes to the Consolidated Financial Statements.

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A.2.6 Reconciliation of Key Performance Indicators

This section shows the calculation of some of the performance indicators presented 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)	2018:	$-0.3\% - (-4.9\%) - 2.7\% = 1.9\%$	2017:	$9.1\% - (-0.3\%) - 1.3\% = 8.1\%$
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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)	2018:	$\frac{4,115 - 4,318}{4,128} = -4.9\%$	2017:	$\frac{4,128 - 4,140}{3,785} = -0.3\%$

Portfolio Effects¹⁾

Revenue from acquisitions in the reporting period and desinvestments prior period, cross-selling/contract manufacturing agreements with LEDVANCE, as well as changes in the allocation of business activities

		Prior period revenue		
OSRAM (continuing operations)	2018:	$\frac{110}{4,128} = 2.7\%$	2017:	$\frac{48}{3,785} = 1.3\%$

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. Revenue from cross-selling and contract-manufacturing agreements with LEDVANCE had also been eliminated.

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	
	2018	2017
Income OSRAM	142	275
Income taxes	55	114
Net financial income or expense ¹⁾	11	8
Amortization, depreciation, and impairments ²⁾	268	224
EBITDA³⁾	477	621

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

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, amortization and impairment of intangible assets (goodwill and other assets) and depreciation and impairment of property, plant, and equipment, net of reversals of impairment losses.

EBITDA Margin and Adjusted EBITDA Margin

in € million

	OSRAM (continuing operations)	
	Fiscal year	
	2018	2017
Revenue	4,115	4,128
EBITDA	477	621
EBITDA margin	11.6%	15.1%
Special items	(128)	(74)
Transformation costs ¹⁾	(101)	(57)
Acquisition-related costs ²⁾	(24)	(15)
Others	(3)	(1)
Adjusted EBITDA	605	695
Adjusted EBITDA margin	14.7%	16.8%

1) 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.).

2) 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 as well as costs for integration/disposal.

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 for) operating activities less additions to intangible assets and property, plant, and equipment.

Free Cash Flow

in € million

	OSRAM (continuing operations)	
	Fiscal year	
	2018	2017
Net cash provided by (used in) operating activities	283	636
Less: Additions to intangible assets and property, plant, and equipment	467	537
Free cash flow	(183)	99

Capital Structure

Net debt/net liquidity is the difference between total debt and total liquidity. Adjusted net debt/net liquidity is net debt/net liquidity less *Pension plans and similar commitments*. For the calculation of net debt/net liquidity and adjusted net debt/net liquidity, 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,	
	2018	2017
EBITDA OSRAM (continuing operations)	477	621
Net debt/net liquidity	(51)	411
Net debt/net liquidity in relation to EBITDA	(0.1)	0.7
Adjusted net debt/net liquidity	(213)	261
Adjusted net debt/net liquidity in relation to EBITDA	(0.4)	0.4

Equity Ratio

Equity Ratio

in € million

	September 30,	
	2018	2017
Total equity	2,676	2,460
Total assets	4,730	4,238
Equity ratio	57%	58%

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

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

$$\frac{\text{Inventories + trade receivables - trade payables}}{\text{Revenue}} \times 365$$

2018: $\frac{(743 + 614 - 714)}{4,115} \times 365 = 57.0$

 2017: $\frac{(662 + 634 - 752)}{4,128} \times 365 = 48.1$

1) OSRAM (continuing operations).

A . 3

Events After the Reporting Date

With the approval of the Supervisory Board, the Managing Board of OSRAM Licht AG resolved on November 6, 2018, to redeem 7,841,326 of the treasury shares held by the Company and thus reduce the Company's registered share capital by €7,841,326, from €104,689,400 to €96,848,074. This reduction of the capital stock was entered in the commercial register on November 13, 2018. The intention is to use the remaining 304,183 treasury shares to fulfill existing and future delivery obligations from share programs.

With the approval of the Supervisory Board, the Managing Board of OSRAM Licht AG resolved on November 6, 2018, to buy-back shares of the Company up to a maximum of 10% of the respective registered share capital of the Company, however for a total maximum purchase price without ancillary costs of up to €400 million. The measure shall serve the purpose of further optimizing the capital structure of the Company and shall be implemented, inter alia, against the background that no larger company acquisitions have been made. The buy-back program is based on the authorization of the Annual General Meeting on February 14, 2017, and is expected to be carried out in the period from January 2019 to June 2020.

In November 2018, the Managing Board adopted a new strategy for the business units of OSRAM
➤ [A.2.3.7 Changes to the Organizational and Segment Structure in Fiscal Year 2019.](#)

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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, 2018.


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 by IHS Markit, the global economy is expected to grow by 3% in calendar year 2019, a slightly lower rate than in the previous year. In the autumn forecast in its most recent report on global economic growth (World Economic Outlook, October 2018), the IMF also predicts a slight softening of global growth in 2019. The IMF believes that the global economy continues to face a wide variety of risks, not least as a result of the ongoing trade disputes. Further trade barriers could be raised, which would harm productivity, economic growth, and innovation. The United Kingdom's planned exit from the European Union has also given rise to uncertainty, as well as to reduced forecasts for economic growth in the UK and negative consequences for its main trading partners. The performance of the global economy has a direct impact on the most important macroeconomic indicators for the lighting market.

Although the forecasts for automotive manufacturing are positive, with growth of around 2% (based on IHS Markit data, October 2018) for our fiscal year 2019, this comes on the back of very weak growth in 2018. 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, modest growth of less than 1% is expected for European automotive manufacturing in fiscal year 2019; China's growth is predicted to be at the low rate, by Chinese standards, of around 2%. A lower rate of growth in production would have a direct impact on demand for lighting products for new vehicles.

IHS Markit's outlook for the non-residential construction sector is positive, with investment forecast to increase globally by 3% in calendar year 2019. Stable growth of around 2% is predicted in Europe, which is slightly less than in the previous year. The only region not expected to expand is North America, although the anticipated growth rate of 0% represents a small improvement compared with the contraction of almost 1% in the previous year.

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 is expected to increase by approximately 2 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. Double-digit growth rates are expected in markets such as LED plant lighting and optical facial recognition in smartphones.

A.4.1.2 Expected Revenue and Earnings Trends

It is expected that the various challenges that arose in the markets in the second half of fiscal year 2018 will continue into fiscal year 2019. In our view, these trends could impair our financial performance, especially in the first six months of the new fiscal year. We believe it is possible that the general course of business will improve in the second half of fiscal year 2019 because the effects of WLTP will be behind us, the U.S. lighting market is expected to benefit from the recent rise in commercial construction, and in China there should be signs of stronger growth—probably on the back of fiscal stimulus.

As far as our automotive business is concerned, we currently have limited planning certainty. This is also reflected in the news reports in the media and automotive companies' lowered forecasts that have been published in recent weeks and months. IHS's forecast for automotive manufacturing, which continues to point to 2% growth in our fiscal year 2019, is heavily reliant on a recovery in Europe and China. However, this is uncertain as things currently stand and would necessitate a turnaround of the prevailing trend. Alongside the forecasts for vehicle production, we anticipate that the growth of LED-based applications in vehicles—particularly front lighting units—will continue to accelerate at a faster rate than vehicle production itself. We assume that the prevalence of LEDs in front lighting units will also increase in the year ahead, from 23% in fiscal year 2018 to around 25%–28% in fiscal year 2019.

The current market environment for general lighting is poor, especially in EMEA. Leading indicators in the U.S.A. show that growth in the lighting industry is likely to pick up over the course of calendar year 2019, because growth in commercial construction has steadily increased over the past few months. Normally, the knock-on effect on demand in the lighting industry materializes six to eight months later.

This shows that OSRAM operates in fast-changing markets and that there are currently uncertainties about future market conditions. Consequently, we anticipate flat to moderate comparable revenue growth for OSRAM (adjusted for currency translation and portfolio effects). LSS and, even more so, OS will make a stronger contribution to revenue growth than SP.

There will be adverse effects in fiscal year 2019 in connection with initial application of IFRS 15. We expect a decrease in revenue of up to €40 million compared with the level based on the current accounting treatment. This is the impact on fiscal year 2019 as a whole and will be predominantly felt in the first quarter. There will be a consequential negative effect on adjusted EBITDA.

Overall, the direct risk to the Company in relation to revenue generated in the United Kingdom is seen as very small. The United Kingdom accounted for less than 1% of our total consolidated revenue in fiscal year 2018. The procurement risk is negligible. Where possible, we have initiated measures to cushion the impact of Brexit. But it is almost impossible to anticipate the indirect effects of a hard Brexit. For this reason, our forecast for fiscal year 2019 does not contain any predictions for a hard Brexit scenario.

For OSRAM (continuing operations) in fiscal year 2019, we estimate an EBITDA margin—adjusted for special items (mainly transformation costs)—of between 12% and 14%, the average of which would mean a modest decrease compared with 2018. We predict a modest fall in the adjusted EBITDA margin for SP and OS, but a moderate improvement for LSS. SP's adjusted EBITDA margin will be diluted by OSRAM CONTINENTAL, above all as a result of high research and development costs. The planning for fiscal year 2019 is based on an exchange rate of USD 1.15 to the euro. Given that currency hedges had been entered into as of September 30, 2018, some of which were for a period of up to one year, we do not expect any significant effects in the short term from movement of the euro/U.S. dollar exchange rate.

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

We anticipate positive free cash flow in a mid double-digit million euro range in the coming fiscal year. One of the main contributors will be OS, which will have a free cash flow that is well into positive territory due to the probable significant decrease in capital expenditure compared with fiscal year 2018. For SP, we expect a similarly high positive free cash flow to that seen in fiscal year 2018. We predict that free cash flow at LSS will remain in negative territory. Free cash flow is likely to be adversely affected by payments in connection with restructuring costs of between €50 million and €100 million that will have an impact on the corporate functions and on the segments.

For the coming fiscal year, we forecast that OSRAM will again have a very 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

Digitalization and the lighting market's shift toward semiconductor-based technologies are creating new business opportunities, in some cases in fields that extend beyond light-related applications. We intend to fully exploit these opportunities. Our acquisitions and strategic equity investments in fiscal years 2017 and 2018 have already significantly changed the profile of our Company and, as outlined above, we will continue on our path to becoming a technology company in fiscal year 2019. One of the main reasons for doing so is that we believe this will increase our enterprise value for the long term, thus benefiting our owners.

The following table provides an overview of our Group forecasts for our key performance indicators:

Expected Developments 2019¹⁾

	Initial position Fiscal year 2018	Expected developments Fiscal year 2019
Comparable revenue growth (adjusted for currency translation and portfolio effects)	modest 1.9%	flat to moderate
Adjusted EBITDA margin (adjusted for special items—mainly transformation costs)	14.7%	12%–14%
Free cash flow	€–183 million	positive Free Cash Flow in a mid double-digit million-€-range

1) Modest equates to a range of 1%–2%; flat to moderate equates to a range of 0%–3%.

In addition to the macroeconomic trends presented above, our forecast is based on OSRAM Licht Group's multi-year business plan. We have not taken into account the economic risks presented under the economic and sector-specific developments. Our forecast is based on an average exchange rate of USD 1.15 to the euro. Our planning also assumes that the technology shift in the lighting market will take place at a certain rate, based on the model of the lighting market described above.

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 risks reported below, eleven are classified as 'high' while the last operational risk is 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 current 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 volatility of relevant exchange rates, increasing dependence on some suppliers, the sector-specific/competitive environment, and growing challenges in relation to management of the Group portfolio and adaptation of the organizational structure and its management to new business models. Risks in connection with setting up a production facility in Kulim, Malaysia, the restructuring activities, and the shortage of qualified employees are regarded as lower.

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.

Strategic Risks

Market Developments

The lighting industry is undergoing a far-reaching technology shift toward semiconductor-based lighting. 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 a strong 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 typical headlight bulbs used in the automotive industry, such as halogen and xenon, but also in conventional light control products, with a shift toward intelligent solutions and connected platforms (Internet of Things, IoT). In addition, some of our established market access points could be replaced, which would impact on our competitive position.

We counter the risk with specific measures aimed at strengthening our cost position and competitive position in the traditional products business. At the same time, we are positioning ourselves as a provider of digital infrastructure by developing innovative products such as the Lightelligence platform. The planned disposal of our luminaires business in Europe and our luminaire service business in the U.S.A. will enable us to operate more flexibly in the market and improve our strategic options.

Failure to implement the identified 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. As a result, we can see a situation in which manufacturers of LED components and products 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.

Furthermore, if the downturn in traditional lighting products continues to accelerate, the affected segments may experience 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. During production ramp-up phases, this might be only partly successful in segments with a higher volume of capital expenditure. For example, in the event of competitors expanding their capacity while we are investing in sapphire technology (for volume LEDs) in the OS Segment, there could be overcapacity in the market. In turn, this overcapacity could cause prices to decline more than we expect, which would impact on our earnings.

We counter this risk by regularly checking whether we can offset existing price and inflation risks through productivity measures [› A.2.2 Events and Developments Responsible for the Course of Business](#) and [› A.2.3 Results of Operations](#). We also constantly review the market for appropriate investments to achieve growth through acquisition. Furthermore, we intend to ensure our future competitiveness by means of capital expenditure as part of our growth and innovation strategy. This in itself involves certain risks, given that it involves investing in new technologies and products. The LED chip factory in Kulim, Malaysia, which we brought on stream in fiscal year 2018, should open up additional potential for growth. Moreover, targeted spending on research and development should help to further OSRAM's goal of technological leadership.

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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.

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 of 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. If we are unable to replace products being discontinued with new ones at the necessary speed, gaps in the product portfolio may arise, leading to revenue shortfalls. This may impact on the competitiveness of our products in terms of cost position and technical performance if our competitors succeed in developing their products and alternative technologies more quickly or selling them in greater quantities than we do. This risk affects all three segments (OS, AM, and DI) [› A.2.3.7 Changes to the Organizational and Segment Structure in Fiscal Year 2019](#) and is associated with a high volume of future capital expenditure for new technologies and products.

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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, sharpening the focus of research and development projects, and further optimizing our process and system landscape. 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.

Economic Situation

Changes to the general economic environment have led to significant volatility in the demand for our products in the past and, therefore, our revenue and earnings. This trend may continue in the future. Our products are used in a wide variety of application segments within the general lighting sector, such as residential, office, hospitality, outdoor, architectural, and industrial lighting, the automotive sector, displays, and the entertainment industry. Most of these are affected by changes in the economic environment relatively early in the economic cycle. The main exceptions are parts of the lighting solutions and luminaires business; this is more exposed to the construction industry, which is affected relatively late in the economic cycle. Furthermore, as our main markets are in Europe, the U.S.A., and Asia, economic developments in these regions have the greatest impact on our business activities. In particular, stronger protectionist measures and even a potential trade war—especially between the U.S.A. and China—must be taken into account. The subdued outlook for China and the European Union, for example as a consequence of the impending Brexit and the re-emergence of the debate about government debt, may also impact on OSRAM's business.

To ensure our productivity, one of the things that is very important is an efficient procurement organization. We regularly review our structures, global and regional presence, and 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 offset falling selling prices, rising commodity and energy costs, and higher wages. 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 might have an 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 business model for the reasons explained below; in this context, it is important to distinguish between light-generating LED components and LED-based products/systems.

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 connected 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.

We are countering this risk by reorganizing OSRAM's structure and adopting a new strategy, including establishing the new Digital (DI) Segment [▶ A.2.3.7 Changes to the Organizational and Segment Structure in Fiscal Year 2019](#).

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.

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 2018, for example, we added innovative technologies of the future to our portfolio. Among others, we acquired plant lighting specialist Fluence Bioengineering and the U.S. company Vixar, which specializes in compact 3D identification technology (VCSEL). We also systematically strengthened our existing electronic component business by acquiring BAG electronics, previously a subsidiary of TRILUX.

The pooling of OSRAM's and Continental's expertise in lighting, light management, and electronics in the OSRAM CONTINENTAL Group is in response to the digital revolution in vehicle lighting and will enable us to offer a one-stop shop for intelligent lighting solutions in the future. 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 Motorleaf, which specializes in artificial intelligence for greenhouse and indoor farming solutions.

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.

Furthermore, OSRAM is aiming to sell both its luminaires business and its service business in the U.S.A. (SLS) so that it is able to concentrate more on fast-growing future-oriented areas of business. The budgeted costs for the divestments may rise on a one-off basis as a result of delays in the separation process. If we are subsequently unable to adapt our organizational structure and cost basis to the changes in the portfolio, we run the risk of incurring residual costs, particularly in our subsidiary network.

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. 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 may have an adverse effect on our business activities and on our net assets, financial position, and results of operations.

Adjustments to the Organization

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 slower rate of growth 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. Such risks also arise in connection with the adjustments to the organizational and segment structure decided upon in early November 2018 [▶ A.2.3.7 Changes to the Organizational and Segment Structure in Fiscal Year 2019](#).

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

Business Continuity Management

Disruptions to the value chain caused by accidents or disruptions at our production facilities and external influences, such as environmental disasters, war, or political unrest, could have a huge impact on our ability to supply our products and on our results of operations. Our own plants are linked with our suppliers in complex global supply chains. This hallmark of an optimized manufacturing organization is particularly true of the semiconductor-based production of LEDs. Some of the plants are absolutely essential to our manufacturing process. If we were no longer able to manufacture the planned volumes at these sites or to export the products manufactured at these sites, there would be an adverse impact on our entire value chain and, in some cases, across all segments.

We are reducing our reliance on individual sites by creating additional production capacity in Regensburg, Kulim (Malaysia), and Wuxi (China). In addition, we analyze the internal dependencies across the segments. There are also business continuity plans in the event of disruptions at our plants. As far as possible, we counter the risk in relation to external suppliers by diversifying the supplier base and continuously monitoring critical suppliers and materials.

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

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.

Risks also arise as a result of fluctuations in commodity prices. For example, demand for certain electronic components is currently rising considerably due to overarching sectoral trends. This is leading to significantly higher prices and much longer delivery times, which in turn is having a negative impact on our product costs and capacity planning at the affected plants.

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.

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.

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 2018, we were awarded Top Employer Germany certification.

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. Product quality shortfalls 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 27 | Financial Risk Management](#) in B.6 Notes to the Consolidated Financial Statements.

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 23 | 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, four of the strategic opportunities are classified as 'high' and four as 'medium.' The two operational opportunities are classified as 'high.' 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. This current 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 strengthening end-to-end process responsibility, from disposing of parts of the Company that are not strategically important, from unlocking potential for growth in China, and from utilizing our production capacity in the U.S.A. Conversely, opportunities arising from having expertise along the entire value chain, from generating licensing income, and from providing funding for projects are 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

Strategic Acquisitions and Partnerships

Our present organization means we are well positioned to deploy our know-how and provide integrated solutions. To further exploit our potential, we may consider selective 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. Besides the acquisitions and equity investments carried out in fiscal year 2018 [▶ 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 [▶ A.2.3.7 Changes to the Organizational and Segment Structure in Fiscal Year 2019](#).

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If this opportunity materializes, it may have a clear 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. 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.

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

Opportunities Related to Organizational and Process-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.

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. Such opportunities also arise in connection with the new organizational and segment structure announced in early November 2018 as a result of OSRAM's strategic realignment, in particular the focus on digitalization and the bundling of significant parts of this business in the DI Segment [▶ A.2.3.7 Changes to the Organizational and Segment Structure in Fiscal Year 2019](#).

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If this opportunity materializes, it 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 spots, 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.

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 extremely dynamic, especially in the field of hybrid and electric vehicle manufacturing. 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 in the country 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 sales.

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 in order to support the repositioning of the OSRAM Group [▶ 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.

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 may have a positive impact on our business activities and on our net assets, financial position, and results of operations.

Accelerated Introduction of Lighting Applications, Products, and Technologies

In recent years, OSRAM has expanded its business model to include professional lighting solutions. The implementation of intelligent, customized, energy-efficient, and innovative lighting concepts will continue to represent a growing business segment in the future.

Our market position is strengthened by our systematic, forward-looking investments in innovative technologies for lighting-related digital infrastructure. Our efforts also extend to optimizing our business processes. We want to structure our processes so that we can launch products more quickly, giving us a competitive edge and allowing 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 use a multi-project management approach to launch 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.

Production Capacity in the U.S.A.

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.

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 may have a clear 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 an integrated lighting manufacturer toward a dedicated lighting technology provider 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. Risks arise, in particular, from the advancing technological shift toward LED technology (and the resulting changes in the market) and the failure to implement—or delays in implementing—defined countermeasures. 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 and the speed of product development processes. Risks are also posed by the gloomier macroeconomic situation and stronger protectionist measures, leading to more volatile exchange rates, a reluctance among companies to invest, and a reluctance among customers to place orders. 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.

We continue to see good opportunities for receiving public-sector subsidies for investment in new technologies, the building up of production capacity, and measures to create employment. In addition, we think there are good opportunities presented by entering into partnerships and making strategic acquisitions in the context of our focused strategy, and by strengthening end-to-end process responsibility with the aim of increasing business acumen, cross-segment collaboration, and clarity with regard to roles and responsibilities. We also believe we have an opportunity to become more customer-focused by making strategic improvements to our process and system landscape and to our product portfolio.

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 strongly underpinned by our financing structure [▶ A.2.4.3 Financing and Liquidity Analysis](#).

The Managing Board remains confident that the Group's profitability 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.

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 HGB 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, 2018. 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 worldwide, 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 2018 are published in accordance with section 289a(1) and section 315a(1) of the HGB.

Structure of the Common Stock

As of September 30, 2018, the Company's capital stock amounted to €104,689,400 (previous year: €104,689,400). The capital stock is divided into 104,689,400 (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, 53a ff., 118 ff., 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

Siemens Beteiligungen Inland GmbH, which has its registered office in Munich and which to our knowledge is a wholly owned subsidiary of Siemens Aktiengesellschaft, whose registered offices are in Berlin and Munich, notified us on December 18, 2013, that it held 17,797,198 shares, representing 17% of OSRAM Licht AG's voting rights. On October 5, 2017, Siemens Aktiengesellschaft notified us that it had reduced its direct or indirect interest to 0.1% of the voting rights

in OSRAM Licht AG. We have thus not been notified of 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 Code-termination 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.

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 disappplied:

- 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 disappplied:

- 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 disappplied, 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.

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 8,145,509 treasury shares as of September 30, 2018 (previous year: 8,289,639).

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.

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.

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).

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 24 | 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. 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.

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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 76 full-time equivalents (FTEs) as of September 30, 2018 (previous year: 75 FTEs).

OSRAM Licht AG directly and indirectly holds shares in over 110 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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 Page 14

A.6.2 Results of Operations

Income Statement of OSRAM Licht AG in Accordance with the HGB

in € thousand

	Fiscal year	
	2018	2017
Revenue	3,000	3,000
Cost of services rendered	(3,000)	(3,000)
Gross profit	0	0
Research and development expenses	(20,030)	(18,290)
General administrative expenses	(36,952)	(42,393)
Other operating income	2,326	1,467
Other operating expenses	0	(3,978)
Operating profit (loss)	(54,656)	(63,194)
Income (loss) from investments, net	248,015	280,013
Interest expenses	(1,506)	(1,412)
Other financial income (expenses), net	(380)	(76)
Taxes on income and earnings	0	0
Net income	191,474	215,331
Income carried forward	9,042	7,449
Allocation to other retained earnings	(93,014)	(106,574)
Unappropriated profit	107,501	116,205

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 expense for R&D at OSRAM Licht AG related to the basic research carried out for the OSRAM Licht Group, in particular in connection with the future Internet of Things platform.

In fiscal year 2018, *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, and fees for the auditors for auditing the single-entity financial statements and consolidated financial statements and reviewing the interim financial statements. The decrease in general administrative expenses was primarily due to the fall in expenses for share programs for the employees of OSRAM Licht AG; this fall was linked to the share price.

Other operating income related to the reimbursement of costs for the buyback of treasury shares by affiliated companies and the reduction in the obligation under bonus programs; this reduction was linked to the share price. *Other operating expenses* in the previous year included expenses from the increase in the obligation under employee bonus programs; this increase was linked to the share price.

In fiscal year 2018, OSRAM Licht AG generated income from investments totaling €248,015 thousand (previous year: €280,013 thousand). This resulted from an advance dividend for fiscal year 2018 from OSRAM GmbH of €54,786 thousand (previous year: €31,760 thousand), a dividend for fiscal year 2017 from OSRAM GmbH of €43,670 thousand (previous year: €79,400 thousand), and the transfer of profits from OSRAM Beteiligungen GmbH of €149,559 thousand (previous year: €168,853 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,	
	2018	2017
Assets		
Non-current assets		
Property, plant, and equipment	157	111
Financial assets	3,044,734	3,044,734
Current assets		
Receivables and other current assets	160,722	27,569
Cash and cash equivalents	17	7
Prepaid expenses	261	62
Total assets	3,205,891	3,072,483
Liabilities and equity		
Equity	2,529,635	2,437,076
Accruals and provisions		
Pension plans and similar commitments	15,663	13,731
Other provisions	6,553	15,510
Liabilities		
Trade payables	4,953	4,661
Liabilities to affiliated companies	642,451	593,293
Other liabilities and trade payables	6,636	8,212
Total liabilities and equity	3,205,891	3,072,483

The increase in *Receivables and other current assets* of €133,153 thousand was largely attributable to higher receivables from affiliated companies, which amounted to €149,860 thousand (previous year: €5,286 thousand). This increase was partly offset by a decline in tax receivables of €11,424 thousand.

Equity rose by €92,559 thousand. The increase in fiscal year 2018 is largely due to the level of *Net income*, which came to €191,474 thousand. This increase was partly offset by the dividend distribution of €107,164 thousand.

The Supervisory Board and Managing Board are proposing that a dividend of €1.11 per dividend-bearing share, amounting to approximately €107 million in total, be distributed to shareholders from unappropriated profit. The total dividend payout may still change if treasury shares are issued or repurchased before the Annual General Meeting.

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.

Other liabilities and trade payables were mainly made up of personnel-related liabilities for wages and salaries in an amount of €4,307 thousand (previous year: €7,020 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 2019, we anticipate that OSRAM Licht AG's unappropriated profit will be high enough to maintain the level of dividend distribution.

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Consolidated Financial Statements

of OSRAM Licht AG
for Fiscal Year 2018 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, 2018, and 2017
in € million

	Note	2018	2017
Revenue		4,115	4,128
Cost of goods sold and services rendered		(2,800)	(2,692)
Gross profit		1,315	1,436
Research and development expenses		(421)	(364)
Marketing, selling and general administrative expenses		(702)	(697)
Other operating income	Note 5	38	30
Other operating expenses	Note 6	(22)	(7)
Income (loss) from investments accounted for using the equity method, net	Note 7	(4)	(2)
Interest income	Note 19, 26	3	7
Interest expenses	Note 19, 26	(10)	(12)
Other financial income (expenses), net		0	(1)
Income before income taxes OSRAM (continuing operations)		197	389
Income taxes	Note 8	(55)	(114)
Income OSRAM (continuing operations)		142	275
Loss discontinued operation, net of tax	Note 3	(2)	(51)
Net income		141	224
Attributable to:			
Non-controlling interests		3	3
Shareholders of OSRAM Licht AG		137	220
Basic earnings per share (in €)	Note 30	1.42	2.27
Diluted earnings per share (in €)	Note 30	1.42	2.26
Basic earnings per share (in €) OSRAM (continuing operations)	Note 30	1.44	2.79
Diluted earnings per share (in €) OSRAM (continuing operations)	Note 30	1.44	2.78

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, 2018, and 2017
 in € million

	Note	2018	2017
Net income		141	224
Items that will not be reclassified to profit or loss			
Remeasurements of defined benefit plans	Note 19	(20)	65
<i>therein: income tax</i>		(17)	(14)
Items that may be reclassified subsequently to profit or loss			
Currency translation differences		3	(55)
Available-for-sale financial assets		(1)	0
<i>therein: income tax</i>		0	0
Derivative financial instruments	Note 26	(6)	0
<i>therein: income tax</i>		2	0
		(3)	(55)
Other comprehensive income (loss), net of tax		(23)	10
Total comprehensive income (loss)		118	234
Attributable to:			
Non-controlling interests		2	3
Shareholders of OSRAM Licht AG		116	231

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, 2018, and 2017
 in € million

	Note	September 30, 2018	September 30, 2017
ASSETS			
Current assets			
Cash and cash equivalents		333	609
Available-for-sale financial assets		0	2
Trade receivables	Note 9	614	634
Other current financial assets	Note 10	45	44
Inventories	Note 11	743	662
Income tax receivables		49	35
Other current assets	Note 12	151	112
Assets held for sale	Note 3	49	2
Total current assets		1,984	2,100
Goodwill	Note 13	369	148
Other intangible assets	Note 13	296	142
Property, plant, and equipment	Note 14	1,621	1,396
Investments accounted for using the equity method	Note 7	66	66
Other financial assets		19	13
Deferred tax assets	Note 8	309	314
Other assets	Note 15	65	59
Total assets		4,730	4,238

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, 2018, and 2017
 in € million

	Note	September 30, 2018	September 30, 2017
LIABILITIES AND EQUITY			
Current liabilities			
Short-term debt and current maturities of long-term debt	Note 18	233	16
Trade payables		714	752
Other current financial liabilities	Note 16	40	29
Current provisions	Note 20	74	75
Income tax payables		110	99
Other current liabilities	Note 17	373	309
Liabilities associated with assets held for sale	Note 3	12	0
Total current liabilities		1,555	1,280
Long-term debt	Note 18	152	184
Pension plans and similar commitments	Note 19	162	150
Deferred tax liabilities	Note 8	14	10
Provisions	Note 20	26	32
Other financial liabilities		24	10
Other liabilities	Note 21	121	111
Total liabilities		2,053	1,778
Equity			
Common stock, no par value		105	105
Additional paid-in capital		2,034	2,035
Retained earnings		780	699
Other components of equity		3	5
Treasury shares, at cost ¹⁾		(386)	(392)
Total equity attributable to shareholders of OSRAM Licht AG		2,536	2,452
Non-controlling interests		140	8
Total equity	Note 24	2,676	2,460
Total liabilities and equity		4,730	4,238

1) The Company held 8,145,509 treasury shares as of September 30, 2018 (September 30, 2017: 8,289,639).

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, 2018, and 2017
 in € million

	Note	2018	2017
Cash flows from operating activities			
Net income		141	224
Adjustments to reconcile net income (loss) to cash provided			
Loss discontinued operation, net of tax	Note 3	2	51
Amortization, depreciation, and impairments		268	224
Income taxes		55	114
Interest (income) expenses, net		8	5
(Gains) losses on sales and disposals of businesses, intangible assets, and property, plant, and equipment, net	Note 5, 6	(16)	(16)
(Gains) losses on sales of investments, net	Note 7	(1)	0
(Income) loss from investments		4	2
Other non-cash (income) expenses		8	27
Change in current assets and liabilities			
(Increase) decrease in inventories		(73)	(23)
(Increase) decrease in trade receivables		(8)	(62)
(Increase) decrease in other current assets		(6)	11
Increase (decrease) in trade payables		(85)	160
Increase (decrease) in current provisions		(6)	(29)
Increase (decrease) in other current liabilities		71	(26)
Change in other assets and liabilities		(5)	12
Income taxes paid		(76)	(45)
Dividends received		0	0
Interest received		3	7
Net cash provided by (used in) operating activities – OSRAM (continuing operations)		283	636
Net cash provided by (used in) operating activities discontinued operation		(4)	(87)
Net cash provided by (used in) operating activities – OSRAM Licht Group (total)		279	548

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, 2018, and 2017
in € million

	Note	2018	2017
Cash flows from investing activities			
Additions to intangible assets and property, plant, and equipment	Note 13, 14	(467)	(537)
Acquisitions, net of cash and cash equivalents acquired	Note 3	(181)	(108)
Purchases of investments		(10)	(68)
Proceeds and payments from sales of investments, intangible assets, and property, plant, and equipment	Note 7	9	27
Proceeds and payments from sales of business activities, net of cash and cash equivalents disposed of	Note 3	22	380
Proceeds from sales of current available-for-sale financial assets		2	–
Net cash provided by (used in) investing activities – OSRAM (continuing operations)		(625)	(305)
Net cash provided by (used in) investing activities discontinued operation		–	(14)
Net cash provided by (used in) investing activities – OSRAM Licht Group (total)		(625)	(319)
Cash flows from financing activities			
Purchase of treasury stocks		–	(165)
Proceeds from changes in ownership interest without change in control		1	–
Proceeds from issuance of long-term debt	Note 18	–	150
Repayment of long-term debt	Note 18	(8)	(8)
Change in short-term debt and other financing activities	Note 18	195	(3)
Interest paid		(5)	(9)
Dividends paid to shareholders of OSRAM Licht AG	Note 24	(107)	(97)
Dividends paid to non-controlling interest shareholders		(3)	(7)
Net cash provided by (used in) financing activities – OSRAM (continuing operations)		72	(139)
Net cash provided by (used in) financing activities discontinued operation		–	(16)
Net cash provided by (used in) financing activities – OSRAM Licht Group (total)		72	(154)
Effect of exchange rates on cash and cash equivalents		(3)	(25)
Net increase (decrease) in cash and cash equivalents		(276)	50
Cash and cash equivalents at beginning of period		609	559
Cash and cash equivalents at the end of period (consolidated statement of financial position)		333	609

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, 2018, and 2017
 in € million

	Common stock	Additional paid-in capital	Retained earnings	Currency translation differences	Available-for-sale financial assets	Derivative financial instruments	Treasury shares at cost	Total equity attributable to shareholders of OSRAM Licht AG	Non-controlling interests	Total equity
Balance at October 1, 2016	105	2,035	512	59	1	0	(237)	2,473	13	2,486
Net income	-	-	220	-	-	-	-	220	3	224
Other comprehensive income (loss), net of tax	-	-	65 ¹⁾	(54)	0	0	-	11	(1) ²⁾	10
Total comprehensive income (loss), net of tax	-	-	286	(54)	0	0	-	231	3	234
Purchase of treasury stocks	-	-	-	-	-	-	(161)	(161)	-	(161)
Re-issuance of treasury stock	-	-	-	-	-	-	6	6	-	6
Dividends	-	-	(97)	-	-	-	-	(97)	(7)	(104)
Other changes in equity	-	0	(1)	-	-	-	-	(1)	0	(1)
Balance at September 30, 2017	105	2,035	699	5	1	0	(392)	2,452	8	2,460
Balance at October 1, 2017	105	2,035	699	5	1	0	(392)	2,452	8	2,460
Net income	-	-	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
Re-issuance of treasury stock	-	-	-	-	-	-	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 at September 30, 2018	105	2,034	780	9	0	(6)	(386)	2,536	140	2,676

1) Other comprehensive income (loss), net of tax, attributable to shareholders of OSRAM Licht AG includes remeasurement losses of €20 million on defined benefit plans for the twelve months ended September 30, 2018; as of September 30, 2017, it includes remeasurement gains of €65 million.

2) Other comprehensive income (loss), net of tax, attributable to non-controlling interests includes currency translation differences for the twelve months ended September 30, 2018, and 2017, 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, 2018, and 2017 in € million

	External revenue		Intersegment revenue		Total revenue		EBITDA ¹⁾	
	2018	2017	2018	2017	2018	2017	2018	2017
SEGMENTS								
Opto Semiconductors	861	831	864	854	1,725	1,685	417	473
Specialty Lighting	2,224	2,310	–	2	2,224	2,312	239	317
Lighting Solutions & Systems	973	949	–	41	973	989	(81)	(72)
Total segments	4,058	4,089	864	897	4,922	4,986	575	718
Reconciliation to consolidated financial statements								
Corporate items and pensions	57	39	–	39	57	77	(97)	(96)
Eliminations, corporate treasury, and other reconciling item	–	–	(864)	(936)	(864)	(936)	(1)	(1)
OSRAM (continuing operations)	4,115	4,128	–	–	4,115	4,128	477	621

	Assets ²⁾		Free cash flow ³⁾		Additions to intangible assets and property, plant, and equipment ⁴⁾		Depreciation, Amortization and Impairments ⁵⁾	
	September 30,		2018	2017	2018	2017	2018	2017
SEGMENTS								
Opto Semiconductors	1,329	858	(145)	62	393	443	161	125
Specialty Lighting	998	724	176	235	49	57	67	65
Lighting Solutions & Systems	359	345	(107)	(68)	23	35	35	31
Total segments	2,686	1,928	(75)	229	465	535	263	220
Reconciliation to consolidated financial statements								
Corporate items and pensions	(141)	(126)	(167)	(136)	2	2	5	4
Eliminations, corporate treasury, and other reconciling item	2,184	2,435	59	6	–	–	–	–
OSRAM (continuing operations)	4,730	4,238	(183)	99	467	537	268	224

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 net financial income or expense), income taxes, and depreciation and amortization 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 for) 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) Additions to intangible assets and property, plant, and equipment are defined as *Capital expenditures*.

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 31 | Segment Information](#).

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B.6.2 Basis of Preparation

1 | 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 36 | 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, 2018, have been prepared in accordance with section 315e(1) of the *Handels-gesetzbuch* (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 19, 2018.

2 | 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 current 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.

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 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. 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

Companies in which OSRAM has the ability to exercise significant influence over their operating and financial policies (generally through direct or indirect ownership of 20% to 50% of the voting rights) and jointly controlled entities are initially recognized in the consolidated financial statements at cost and subsequently accounted for using the equity method. 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	
		2018	2017	2018	2017
U.S. dollar	USD	1.158	1.181	1.192	1.107
Chinese renminbi	CNY	7.971	7.858	7.790	7.529
Hong Kong dollar	HKD	9.059	9.224	9.333	8.613
Malaysian ringgit	MYR	4.791	4.985	4.800	4.800
Mexican peso	MXN	21.765	21.468	22.519	21.186

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 remeasured using historical exchange rates.

Revenue Recognition

Provided there is persuasive evidence that an arrangement exists, delivery has occurred, or services have been rendered, 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.

If sales of goods and services or software arrangements involve the provision of multiple elements, OSRAM determines whether the contract or arrangement contains more than one unit of account.

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.
- Rendering of services
Revenue from service transactions is recognized as soon as the services have been provided. In the case of long-term service contracts, revenue is recognized on a straight-line basis over the term of the contract or, if this method does not reflect the pattern of service delivery, as the services are provided.
- Interest
Interest income and expenses are recognized using the effective interest method.

— Royalties

Royalties are recognized on an accrual basis in accordance with the substance of the relevant agreement.

— Dividends

Dividends are recognized when the right to receive payment is established.

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

Earnings per Share

Basic earnings per share is calculated by dividing profit from continuing operations, profit from discontinued operations (if applicable), and net income, 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.

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. These discounted cash flow calculations generally use five-year projections 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 and whether additional taxes and interest, including any possible penalties, might be payable. 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 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, assumptions are necessary to estimate future taxable profits as well as the period in which deferred tax assets will be recoverable. 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. 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 3 | 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 3 | Acquisitions, Disposals, and Discontinued Operations](#). Revenue and expenses arising from intragroup transactions 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 3 | 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*

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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.

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 benefit plans that are covered by dedicated funding (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 19 | 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) 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 4 | 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 20 | Provisions](#), [› Note 22 | Other Financial Commitments and Contingent Liabilities](#) and [› Note 23 | 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. The financial assets of OSRAM mainly include cash and cash equivalents, available-for-sale financial assets, trade receivables, loans receivable, and derivative financial instruments with a positive fair value. OSRAM does not make use of the held-to-maturity category. 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).

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. Subsequently, financial assets and liabilities are 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 are assigned.

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. However, repayment can also occur in cases where the debtor is legally released from the debtor's original obligation or the obligation is extinguished. 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.

Cash and Cash Equivalents

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 cost.

Available-for-Sale Financial Assets

Investments in equity instruments, debt instruments, and fund shares are classified as available-for-sale financial assets and are measured at fair value if this value can be reliably determined. Unrealized gains and losses, net of deferred taxes, are recognized in *Other comprehensive income (loss), net of tax*. If fair value cannot be reliably determined, OSRAM measures available-for-sale financial assets at cost.

Loans and Receivables

Financial assets classified as loans and receivables are measured at amortized cost using the effective interest method less any impairment losses. Impairment losses on trade receivables are recognized using separate allowance accounts.

The allowance for doubtful accounts involves significant management judgment and review of individual receivables based on the creditworthiness of each customer, current economic trends, and analysis of historical bad debts on a portfolio basis. To determine the country-specific component in the individual allowance, OSRAM also factors in country credit ratings based on information from external rating agencies. Where the valuation allowance is derived from a portfolio-based analysis of historical bad debts, a rise or decline in the volume of receivables results in a corresponding increase or reduction in such allowances.

Loans and receivables 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.

Financial Liabilities

OSRAM measures financial liabilities other than derivative financial instruments at amortized cost using the effective interest method.

Derivative Financial Instruments

Derivative financial instruments, such as forward exchange deals and interest-rate swaps, are measured at fair value. OSRAM classifies derivative financial instruments as held for trading unless they are designated as hedging instruments to which hedge accounting is applied. Changes in the fair value of derivative financial instruments classified as held for trading are recognized in profit or loss in the relevant period. 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. See [› Note 26 | Financial Instruments](#) for further information.

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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. 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 28 | 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 15 Revenue from Contracts with Customers

In May 2014, the IASB issued IFRS 15 *Revenue from Contracts with Customers*. 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. In May 2016, the IASB also issued clarifications to IFRS 15 relating to matters such as licensing contracts, the identification of separate performance obligations, and principal versus agent considerations. The standard was adopted into European law in October 2016 and the clarifications in November 2017.

OSRAM will apply IFRS 15 for the first time at the start of fiscal year 2019. When applying the new rules of IFRS 15 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 2018 when it applies the new rules for the first time for fiscal year 2019.

OSRAM has analyzed how IFRS 15 will affect the main business models in all of the Group's business units. The first step was to identify the business models and, using a standardized questionnaire, analyze whether they might be affected by IFRS 15. Representative contracts were then analyzed to verify the information obtained from the questionnaires. Next, what were deemed to be the main impacts of IFRS 15 were critically examined.

This analysis found that IFRS 15 will, in particular, lead to changes to accounting treatment in terms of the timing of revenue recognition. The main affected areas are:

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

As a result of a reporting-date-related postponement of revenue, we expect IFRS 15 to lead to a decrease in revenue in fiscal year 2019 of up to €40 million compared with the level based on the current accounting treatment.

The analysis carried out shows that the identification and separation of additional performance obligations and the determination of the transaction price will not cause any major changes. OSRAM exercises the IFRS 15 option regarding the costs of obtaining a contract in such a way that these costs continue to be recognized directly through profit or loss, provided that the amortization period that would have to be applied in the event of recognition as an asset does not exceed one year.

In fiscal year 2018, systems and processes were implemented that will be deployed for the first time when the quarterly financial statements for the period ended December 31, 2018, are prepared in order to ensure that the accounting (including new disclosures) for fiscal year 2019 is compliant with IFRS 15.

IFRS 9 Financial Instruments

In July 2014, the IASB published the final version of IFRS 9 *Financial Instruments*. IFRS 9 was adopted into European law in November 2016.

OSRAM will apply IFRS 9 for the first time at the start of fiscal year 2019. As well as the accounting changes described below, application of IFRS 9 will necessitate additional disclosures in accordance with IFRS 7 *Financial Instruments: Disclosures*.

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.

IFRS 9 defines three categories of financial assets: those measured at amortized cost, those measured at fair value whose gains and losses are recognized in profit or loss (FVTPL), and those measured at fair value whose gains and losses are recognized in other comprehensive income (FVOCI).

The accounting treatment has changed for trade receivables from customers that are sold to a factoring company in connection with customers' 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. This will not have a significant effect on earnings.

As of September 30, 2018, the Group had equity instruments classified as available for sale with a fair value of €5 million. IFRS 9 provides the option of classifying these as either FVOCI or FVTPL. In the event of allocation to the FVOCI category, fair value gains and losses are not reclassified from equity to the income statement, even if the equity instruments are subsequently sold. OSRAM will exercise this option for at least some of the equity instruments that it holds.

IFRS 9 contains a new expected loss impairment model. For the bulk of the receivables, the valuation allowances are calculated on the basis of the customer's individual credit rating. This will not have any significant impact on the level of accumulated valuation allowances at the time of initial application of IFRS 9.

The rules on hedge accounting are also changing 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. The types of hedge that the Group currently uses will continue to meet the hedge accounting requirements under IFRS 9.

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.

In fiscal year 2018, OSRAM launched a Group-wide program to implement the new standard. The current phase of the project involves identifying lease contracts and analyzing leases. It also includes selecting suitable leasing software (lease engine) that can calculate the IFRS 16 effects and issue the relevant postings.

The most significant impact identified so far is that the Group will recognize new assets and liabilities for its operating leases, particularly in connection with the rental of buildings. 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.

An initial, provisional analysis of these effects shows that the transition could cause a rise in total assets in the low- to mid-triple-digit millions of euros (rise in total assets of approximately 5%–10%) and might have a positive impact on EBITDA.

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.

The actual impact on the consolidated financial statements at the time of first-time adoption of IFRS 16 depends on future economic conditions, such as the interest rates relevant to the Group as of October 1, 2019, the composition of the portfolio of leases as of this date, the Group's assessment regarding the exercise of extension options, and the extent to which the Group utilizes exemptions.

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 intends to apply the interpretation from the prescribed effective date. No significant impact on the Group's tax positions is expected.

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

31 Acquisitions, Disposals, and Discontinued Operations

Agreement Between OSRAM and Continental

On March 29, 2018, OSRAM and Continental contractually agreed to pool their expertise in lighting, light management, and electronics by setting up OSRAM CONTINENTAL GmbH, which is run as a subsidiary of OSRAM Licht AG. This combines the LED- and laser-based automotive module business, advanced electronics, optics, and software expertise with access to sensors and innovative light sources. The subsidiary thus offers a broad range of complete lighting solutions, particularly for use in headlights, taillamps, and vehicle interiors. Its product portfolio includes semiconductor-based lighting modules, such as LED modules for front headlights, taillamps, laser modules, and lighting control units. The transaction will enable OSRAM to build on its position as a strong and innovative partner to the automotive industry and to identify and cater to future trends even more effectively. The new company began operating on July 2, 2018, after the antitrust approvals had been granted.

OSRAM and Continental transferred their relevant business activities to OSRAM CONTINENTAL GmbH on July 2, 2018, with the transfer taking effect on July 1, 2018. They each have a 50% stake in the company. As a result of the contractual agreements entered into with Continental and the contractually assured special voting rights therein, OSRAM is able to exert sustainable influence over the activities that are significant to the company's returns and has control over the company.

The consideration paid by OSRAM amounted to €182 million and included the current fair value of the transferred assets and liabilities as well as a cash-settled one-off payment of €38 million for control and naming rights. Furthermore, costs of €9 million in connection with both the establishment of the subsidiary and the acquisition were recognized in profit or loss in fiscal year 2018. The preliminary purchase price allocation gave rise to the following values as of the acquisition date: other intangible assets €108 million, property, plant, and equipment €2 million, receivables €2 million (the principal amount of the receivables was €2 million), and liabilities and provisions €2 million. The other intangible assets predominantly consist of technologies valued at €48 million and customer relationships valued at €54 million, both of which have useful lives of up to eleven years.

The preliminary goodwill of €128 million is tax deductible and comprises non-separable intangible assets such as employee know-how and expected synergy effects arising because the two companies' business activities complement each other very well and will lead to an improved position in the market. The purchase price allocation and the allocation of the preliminary goodwill to cash-generating units have not yet been completed because the assets, particularly other intangible assets, are still being measured and the associated tax implications are still being analyzed.

The changes in equity as a result of the relevant business activities being transferred to OSRAM CONTINENTAL GmbH are presented in the consolidated statement of changes in equity as changes in equity resulting from portfolio transactions. In the period between the acquisition and September 30, 2018, the acquired business contributed revenue of €2 million and a loss of €3 million, including the effects on earnings of the purchase price allocation and integration costs. If Continental's lighting control business had been included in the consolidated financial statements right from the start of the fiscal year, there would have been an increase in consolidated revenue in the low-triple-digit millions of euros and a rise in net income in the mid-single-digit millions of euros. As of the acquisition date, the non-controlling interests of 50% stood at €133 million and were measured at the corresponding share of the carrying amount recognized for the net assets acquired (excluding goodwill).

Acquisition of Fluence Bioengineering

On May 2, 2018, OSRAM contractually agreed to buy all the shares in Fluence Bioengineering, Inc., Austin, U.S.A. The company, which has been allocated to the SP Business Unit, specializes in LED-based plant cultivation systems for a variety of applications, such as vertical farming. This makes it possible to grow plants in more places, particularly in urban areas. The possible areas of application range from growing vegetables, such as lettuce and herbs, to cultivating medicinal plants. The transaction was completed on July 2, 2018. The preliminary purchase price amounted to approximately USD 73 million (around €63 million) including cash acquired of approximately USD 6 million (around €5 million). It also included a sum of USD 1 million (around €1 million) representing the fair value of contingent consideration in the form of an earn-out, as agreed with the sellers. A corresponding liability in the same amount was recognized under other financial liabilities. Depending on the company's revenue and gross margin in the three years subsequent to the transaction, this contingent consideration may give rise to a sum in the mid double-digit millions of U.S. dollars. The fair value determined as part of the purchase price allocation reflects OSRAM's estimates for these key performance indicators. At the end of the fiscal year, the estimate of the expected additional payments was unchanged compared with the date of acquisition. Payment of the remaining purchase price of approximately USD 72 million (around €62 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 €30 million, receivables and other assets €1 million (the principal amount of the receivables and other assets was €1 million), inventories €4 million, property, plant, and equipment €2 million, deferred tax liabilities €8 million, and liabilities and provisions €8 million. Intangible assets predominantly consist of customer relationships valued at €18 million with useful lives of five years and the brand, which is measured at €7 million. The preliminary goodwill of €37 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 and liabilities are still being measured.

Since the acquisition, the acquired business has contributed €11 million in revenue and a profit of €2 million to OSRAM, including 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 €39 million and net income of approximately €6 million.

Acquisition of Vixar

On July 2, 2018, OSRAM also acquired 100% of the shares in Vixar, Inc., Plymouth, U.S.A. The acquisition strengthens OSRAM's expertise in semiconductor-based optical 3D identification technology, with applications ranging from healthcare to industry and automotive in the Opto Semiconductors Business Unit (OS). The preliminary purchase price recognized as of the acquisition date amounted to approximately USD 79 million (around €68 million). Of this sum, approximately USD 60 million (around €52 million) was settled in cash. In addition, contingent consideration in the form of an earn-out was agreed with the seller. The additional purchase price payments depend on the additional revenue generated in calendar years 2019 and 2020 as a result of the acquisition. Revenue targets have been defined for both of these calendar years, the achievement of which would give rise to payments in the low double-digit millions of U.S. dollars. As of the acquisition date, the fair value of the contingent consideration of USD 19 million (€16 million) was recognized under other financial liabilities. As of the reporting date, the fair value of the contingent consideration continued to amount to €16 million.

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 €14 million, inventories €2 million, receivables €2 million (the principal amount of the receivables was €2 million), liabilities and provisions €2 million, and deferred tax liabilities €2 million. Intangible assets predominantly consist of technologies valued at €4 million with useful lives of up to ten years and customer relationships valued at €10 million with useful lives of up to six years. The preliminary goodwill of €54 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 €3 million in revenue and a profit of €0 million to OSRAM, including 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 €9 million and a profit of approximately €0 million.

Acquisition of BAG

On March 15, 2018, OSRAM contractually agreed to purchase 100% of the shares in BAG electronics GmbH, Arnsberg, Germany, and its subsidiaries BAG Electronics Inc., Mamplasan, Philippines, and TRILUX Lighting Inc., Mamplasan, Philippines. BAG specializes in electronic ballasts, LED modules, and software for innovative LED lighting solutions, such as for human-centric lighting (HCL). Beneficial ownership was transferred on July 2, 2018. The purchase price of €26 million, including cash acquired of €3 million, was settled in cash. The acquisition resulted in goodwill of €2 million that is not tax deductible and has been allocated to the DS Operating Segment.

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 €14 million, inventories €10 million, receivables and other assets €8 million (the principal amount of the receivables was €7 million), property, plant, and equipment €3 million, liabilities and provisions €9 million, and deferred tax liabilities €4 million. Intangible assets predominantly consist of customer relationships valued at €11 million with useful lives of up to ten years. The preliminary goodwill of €2 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 €9 million in revenue and a loss of €1 million to OSRAM, including 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 €36 million and a profit of approximately €0 million.

As part of the purchase price allocation, provisions in the low single-digit millions of euros were recognized for uncertain tax positions, for which a compensation claim in the same amount vis-à-vis the sellers in connection with a fundamentally unlimited right of recourse was capitalized.

Other Acquisitions

On December 15, 2017, OSRAM acquired the operating business of Pacific Light Technologies Corp., Portland, U.S.A. The acquisition strengthens the Opto Semiconductors (OS) Business Unit. The purchase price amounted to approximately USD 9 million (around €8 million). The acquisition resulted in goodwill of €3 million that is tax deductible.

In fiscal year 2018, OSRAM also made an equity investment in iThera Medical GmbH, Munich, Blickfeld GmbH, Munich, GoodIP GmbH, Munich, beaconsmind AG, Zurich, Switzerland, and Motorleaf Inc., Montreal, Canada, which are accounted for using the equity method.

Disposal Group: Sylvania Lighting Solutions

OSRAM is at an advanced stage of negotiations on disposing of the North American service business, which is predominantly operated by Sylvania Lighting Services Corp. (SLS), Wilmington, U.S.A. The disposal is now expected to go ahead in the first half of fiscal year 2019, so all of the assets and liabilities of SLS, which are allocated to the LS Operating Segment, are shown separately as a disposal group. The assets were tested for impairment immediately before they were classed as held for sale; the test did not reveal a need for impairment. At the end of the fiscal year, however, the disposal group was remeasured at fair value less costs of disposal, revealing the need to recognize an impairment loss of €3 million.

After consolidation of all intragroup assets and liabilities, the disposal group was recognized in the consolidated statement of financial position as of September 30, 2018, under *Assets held for sale and Liabilities associated with assets held for sale*. The disposal group essentially consists of intangible assets of €3 million, receivables of €34 million, inventories of €10 million, and liabilities related to these activities of €12 million. Furthermore, the currency translation differences include cumulative expenses of €6 million associated with the disposal group.

Sale of the Disposal Group for Business with Electro Hot Air Devices

On August 23, 2017, OSRAM contractually agreed the sale of its electro hot air devices business in the Specialty Lighting (SP) Business Unit to TUTCO, LLC, Cookeville, U.S.A. The transaction was completed at the start of November 2017 for a low double-digit million euro amount.

Discontinued Operation

On June 12, 2015, OSRAM resolved to separate its general lighting lamps business ('LEDVANCE'). On July 26, 2016, the Supervisory Board of OSRAM Licht AG consented to the sale of LEDVANCE. The sale was completed on March 3, 2017, once the parties had obtained all the necessary consents from the relevant authorities. The buyer of the business was a Chinese consortium comprising IDG Capital Partners, MLS Co., Ltd., and Yiwu State-Owned Assets Operation Center.

The final installment of the purchase price of €5 million for the sale of LEDVANCE was paid in fiscal year 2018. As a result, the purchase price has now been paid in full. The net loss from the discontinued operation in fiscal year 2018 included expenses that were directly connected with the sale but were not incurred until fiscal year 2018. The net loss also included a current tax benefit of €8 million.

Subsidiaries with significant non-controlling interests

The non-controlling interests of 50% in OSRAM CONTINENTAL GmbH, whose registered office is in Munich, Germany, amounted to €133 million at the end of the fiscal year. The profit attributable to the non-controlling interests for the three-month period between the acquisition and September 30, 2018, came to €0 million.

The following summary of financial information is presented in accordance with IFRS before intra-group consolidation (as of the end of the fiscal year; for the three-month period between the acquisition and September 30, 2018): current assets €127 million, non-current assets €377 million, current liabilities €114 million, non-current liabilities €3 million, equity €387 million; revenue €65 million, pre-tax loss €12 million. 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.

B.6.4 Disclosures on the Statement of Income

41 Personnel-related Restructuring Expenses

In fiscal years 2018 and 2017, OSRAM undertook measures throughout the Company to improve processes and make structural adjustments in production and in sales, administration, and other nonproduction functions.

In particular, personnel-related restructuring expenses related to these measures were incurred in the amount of €67 million in the last fiscal year (previous year: €40 million). These expenses arose mainly in connection with collective and individual agreements in Germany; to a lesser extent, they also relate to the U.S.A. and Slovakia (previous year: mainly Germany and China).

In fiscal years 2018 and 2017, personnel-related restructuring expenses primarily affected *Cost of goods sold and services rendered, Marketing, selling, and general administrative expenses, and Research and development expenses*.

51 Other Operating Income

Other Operating Income

in € million

	Fiscal year	
	2018	2017
Gains on sales of business activities	15	–
Gains on sales and disposals of property, plant, and equipment, and intangibles	5	20
Miscellaneous other income	19	10
Other operating income	38	30

Gains on sales of business activities were influenced by the gain of €15 million on the sale of the electro hot air devices business.

In fiscal year 2017, *Gains on sales and disposals of property, plant, and equipment, and intangibles* had consisted of, among other things, the gain from the sale of real-estate assets in South Korea.

In fiscal year 2018, *Miscellaneous other income* consisted of, among other things, income of €6 million from services rendered for former subsidiaries and income of €3 million from government grants.

6 | Other Operating Expenses

Other Operating Expenses

in € million

	Fiscal year	
	2018	2017
Losses on sales and disposals of property, plant, and equipment, and intangibles	(4)	(3)
Impairment loss on disposal group	(3)	–
Miscellaneous other expenses	(15)	(4)
Other operating expenses	(22)	(7)

In fiscal year 2018, *Miscellaneous other expenses* included, among other things, expenses arising in connection with a legal dispute in the U.S.A.

7 | 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	
	2018	2017
Share of profit (loss), net	(5)	(2)
Reversals of impairments/impairments, net	1	0
Income (loss) from investments accounted for using the equity method, net	(4)	(2)

OSRAM has an equity investment, which it acquired in fiscal year 2017, in the associate LeddarTech Inc., Quebec, Canada. The share in the profit or loss of the company stood at 25.1% as of the reporting date.

Financial Information for LeddarTech Inc.

in € million

	Fiscal year	
	2018 ¹⁾	2017 ²⁾
Interest in income (loss)	25.1%	25.1%
Non-current assets	25	27
Current assets	15	27
Non-current liabilities	6	7
Current liabilities	2	2
Net assets (100%)	32	45
Group's share of net assets	8	11
Goodwill	46	47
Carrying amount of interest in the entity	55	59
Revenue	3	4
Loss before income taxes	(8)	(149)
Other comprehensive income	(1)	0
Total comprehensive income	(9)	(149)
Dividends received	–	–

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

2) The data presented from the income statement covers the twelve-month period; the data relating to assets and liabilities indicates their value as of the date of acquisition. The previous year's loss before income taxes included a significant nonoperating special item before OSRAM's acquisition of the shares and consequently did not impact on OSRAM's share of income (loss) from investments accounted for using the equity method, net.

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	
	2018	2017
Carrying amount of interests in associates	4	2
Share of net income (loss), net of tax	(1)	0
Carrying amount of interests in joint ventures	6	6
Share of net income (loss), net of tax	0	(2)

81 Income Taxes

Income Taxes

in € million

	Fiscal year	
	2018	2017
Current tax (expense) benefit, net, fiscal year	(94)	(74)
Current tax (expense) benefit, net, prior fiscal years	17	3
Deferred tax (expense) benefit, net, from changes in temporary differences	28	(3)
Deferred tax (expense) benefit, net, others	(6)	(40)
Income tax (expense) benefit, net	(55)	(114)

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	
	2018	2017
Income before income taxes OSRAM (continuing operations)	197	389
Group tax rate	30.1%	30.1%
Expected income tax (expense) benefit, net	(59)	(117)
Increase/decrease in income taxes resulting from:		
Non-deductible losses and expenses	(19)	(14)
Tax-free income	3	5
Taxes for prior years	16	13
Change in realizability of deferred tax assets and tax credits	4	6
Foreign tax rate differential	12	4
Change in tax rates	(7)	–
Other, net	(4)	(11)
Actual income tax (expense) benefit, net	(55)	(114)

The impact of lowering the rate of U.S. corporate income tax from 35% to 21% is shown in the *Foreign tax rate differential* and *Change in tax rates* line items. In fiscal years 2018 and 2017, Other, net primarily comprised nondeductible withholding taxes on intragroup dividend payments.

Non-controlling interests were created as a result of the automotive lighting business being transferred to OSRAM CONTINENTAL GmbH. The directly assignable tax expense of €4 million was recognized in equity.

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,	
	2018	2017	2018	2017
Financial assets	2	1	0	0
Other intangible assets	49	18	35	21
Property, plant, and equipment	19	23	28	28
Inventories	24	30	0	0
Receivables	5	8	12	4
Pension plans and similar commitments	138	138	0	0
Provisions	32	36	3	7
Liabilities	41	49	2	2
Tax loss and credit carryforwards	71	67	-	-
Other	2	6	8	10
Deferred taxes	383	375	88	71
Netting	(74)	(61)	(74)	(61)
Item in the statement of financial position	309	314	14	10

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 €59 million (previous year: €46 million) have been recognized for entities that generated a loss in the current period or in the prior period. The deferred taxes mainly relate to tax loss carryforwards.

Tax loss carryforwards amounted to €390 million as of September 30, 2018 (previous year: €290 million). In fiscal year 2018, deferred tax assets of €50 million were recognized in Germany (previous year: €30 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,	
	2018	2017
Deductible temporary differences	57	45
Tax credits	64	66
Tax loss carryforwards	176	124

Of the tax loss carryforwards for which no deferred tax assets were recognized as of September 30, 2018, €57 million (previous year: €18 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, 2018, no deferred tax liabilities were recognized for subsidiaries' accumulated earnings of €1,078 million (previous year: €1,032 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	
	2018	2017
Income tax (expense) benefit, net	(55)	(114)
(Expense) benefit recognized directly in other comprehensive income (loss)	(15)	(14)

Deferred taxes recognized in other comprehensive income (loss) for defined benefit plans had to be remeasured due to the lowering of the rate of U.S. corporate income tax. This resulted in a one-off expense recognized in other comprehensive income (loss) of €22 million.

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

9 I Trade Receivables

The changes in valuation allowances recognized in respect of trade receivables were as follows:

Valuation Allowances

in € million

	Fiscal year	
	2018	2017
Valuation allowances as of beginning of fiscal year	(13)	(13)
Derecognition of receivables	1	1
Change in valuation allowances recorded in the income statement in the current period	(3)	(1)
Changes to the group of consolidated companies and other changes	0	0
Valuation allowances as of fiscal year end	(15)	(13)

As of September 30, 2018, and 2017, there were no trade receivables past due but not impaired.

10 I Other Current Financial Assets

Other Current Financial Assets

in € million

	September 30,	
	2018	2017
Derivative financial instruments	4	2
Debit balances of trade accounts payable	11	9
Receivables from employees	2	1
Other	28	32
Other current financial assets	45	44

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 26 | Financial Instruments](#).

11 I Inventories

Inventories

in € million

	September 30,	
	2018	2017
Raw materials and supplies	216	157
Work in progress	203	196
Finished goods and merchandise	325	316
Advances to suppliers	6	2
Advance payments received	(7)	(10)
Inventories	743	662

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

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Cumulative valuation allowances rose by a total of €19 million to €141 million in fiscal year 2018 (previous year: rise of €9 million) due to 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.

12 I Other Current Assets

Other Current Assets

in € million

	September 30,	
	2018	2017
Miscellaneous tax receivables	57	66
Receivables from government grants	36	–
Prepaid expenses	24	19
Other	34	27
Other current assets	151	112

For information on government grants, see [Note 14 I Property, Plant, and Equipment](#).

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As of September 30, 2018, *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 services provided to customers, the income for which is deferred over the term of the contract.

13 | Goodwill and Other Intangible Assets

Goodwill and Other Intangible Assets¹⁾

in € million

	Gross carrying amount as of October 1, 2017	Translation differences	Additions through business combinations	Additions	Retirements	Reclassification of disposal group	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 year 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)

	Gross carrying amount as of October 1, 2016	Translation differences	Additions through business combinations	Additions	Retirements	Reclassification of disposal group	Gross carrying amount as of September 30, 2017	Accumulated amortization and impairment	Net book value as of September 30, 2017	Amortization and impairment during fiscal year 2017
Goodwill	294	(11)	75	-	-	-	358	(211)	148	-
Capitalized software development costs	74	0	-	9	-	-	82	(82)	1	0
Other capitalized development costs	71	(1)	-	6	-	-	77	(53)	24	(6)
Patents, licenses, and other rights	455	(15)	45	7	(1)	-	490	(373)	118	(20)
Other intangible assets	600	(15)	45	22	(1)	-	649	(507)	142	(26)

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

The *Goodwill* line item increased mainly due to additions resulting from business combinations, in particular: a preliminary rise of €128 million in the Specialty Lighting (SP) Operating Segment attributable to the acquisition of the lighting control business of Continental, a preliminary rise of €54 million in the Opto Semiconductors (OS) Operating Segment attributable to the acquisition of the shares in Vixar Inc., Plymouth, U.S.A., and a preliminary rise of €37 million in the Specialty Lighting (SP) Operating Segment attributable to the acquisition of the shares in Fluence Bioengineering, Inc., Austin, U.S.A. > [Note 3 | Acquisitions, Disposals, and Discontinued Operations.](#)

The carrying amounts for *Goodwill* are allocated to the operating segments as follows:

Goodwill

in € million

	September 30,	
	2018	2017
Specialty Lighting	248	83
Opto Semiconductors	57	–
Digital Systems	38	36
Digital Lumens	26	26
Lighting Solutions	–	3
Goodwill	369	148

The annual impairment test in both fiscal year 2018 and the comparative period was based on the current business plans at that time. 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 average EBITDA margins in the detailed planning phase that are used as the basis for the business plans, the terminal value growth rates, and the discount rates.

The annual impairment tests in fiscal year 2018 assumed a long-term growth rate of 2.4% (previous year: 2.4%) and discount rates (after tax) between 7.9% and 8.5% (previous year: between 7.4% and 8.2%). As in the previous year, the impairment tests confirmed that none of the goodwill was impaired; in all cases, the recoverable amount of the unit exceeds the carrying amount by an amount that is at least in the double-digit millions of euros. At Digital Lumens, an increase in the discount rates (after tax) of more than 0.5 percentage points together with a fall in the EBITDA margin of more than 1.5 percentage points would result in impairment of its goodwill.

As of September 30, 2018, *Other intangible assets* included rights arising from a reciprocal licensing agreement with the former Koninklijke Philips Electronics N.V., Eindhoven, Netherlands, with a value of €15 million (previous year: €17 million). The rights under the licensing agreement had been recognized as of September 30, 2008, with an assumed useful life of 16 years. Intangible assets identified in connection with the acquisition of OSRAM CONTINENTAL, Fluence, and Vixar were also added in fiscal year 2018 > [Note 3 | Acquisitions, Disposals, and Discontinued Operations](#).

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There were no significant obligations to purchase other intangible assets as of September 30, 2018, or 2017.

14 | Property, Plant, and Equipment

Property, Plant, and Equipment¹⁾

in € million

	Gross carrying amount as of October 1, 2017	Translation differences	Additions through business combinations	Additions	Reclassifications	Retirement	Reclassification of disposal group	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 year 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	0	(94)	0	4,064	(2,442)	1,621	(233)

	Gross carrying amount as of October 1, 2016	Translation differences	Additions through business combinations	Additions	Reclassifications	Retirement	Reclassification of disposal group	Gross carrying amount as of September 30, 2017	Accumulated amortization and impairment	Net book value as of September 30, 2017	Amortization and impairment during fiscal year 2017
Land and buildings	424	(7)	2	62	50	(9)	-	522	(217)	306	(18)
Technical machinery and equipment	2,130	(55)	8	157	113	(84)	-	2,270	(1,613)	657	(135)
Furniture and office equipment	532	(12)	1	40	33	(28)	-	567	(440)	127	(45)
Advances to suppliers and construction in progress	196	(12)	0	322	(196)	(1)	-	308	(2)	307	(1)
Property, plant, and equipment	3,283	(86)	12	581	-	(122)	-	3,668	(2,272)	1,396	(198)

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

As of September 30, 2018, contractual obligations to purchase property, plant, and equipment amounted to €112 million (previous year: €316 million).

Government grants received in fiscal year 2018 for the purchase or production of property, plant, and equipment amounted to €38 million (previous year: €0 million). Further government grants awarded, in particular for LED research projects, amounted to €14 million in fiscal year 2018 (previous year: €6 million). These grants 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 2018 and 2017.

15 | Other Assets

Other Assets

in € million

	September 30,	
	2018	2017
Prepaid expenses	37	31
Deferred compensation assets	9	8
Chinese land use rights	6	6
Other	13	13
Other assets	65	59

As of September 30, 2018, *Prepaid expenses* included the non-current portion of the transaction costs related to the revolving credit facility amounting to €4 million (previous year: €6 million). This item also included, in particular, the overfunding of pension plans in a sum of €21 million (previous year: €15 million). This was predominantly attributable to the amount of €14 million in the U.S.A. (previous year: €11 million) and the amount of €4 million in Canada (previous year: €4 million).

The *Other* line item mainly consists of advances paid as well as services provided to customers, the income for which is deferred over the term of the contract.

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

16 | Other Current Financial Liabilities

Other Current Financial Liabilities

in € million

	September 30,	
	2018	2017
Derivative financial instruments	15	5
Credit balances on trade accounts receivable	4	5
Other	21	19
Other current financial liabilities	40	29

Information on *Derivative financial instruments* can be found in [Note 26 | Financial Instruments](#).

17 | Other Current Liabilities

Other Current Liabilities

in € million

	September 30,	
	2018	2017
Employee-related accruals	118	100
Payroll obligations and social security taxes	113	116
Liabilities from precious metal lending transactions	58	–
Other taxes	25	21
Bonus obligations	19	27
Other	40	44
Other current liabilities	373	309

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 4 | Personnel-related Restructuring Expenses](#).

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In fiscal year 2018, precious metal lending transactions were entered into for the first time. They are recognized as liabilities. The precious metals are used in the semiconductor manufacturing process and accounted for as raw materials and supplies.

18 | Debt

Composition of Debt

in € million

	September 30,	
	2018	2017
Short-term (within 1 year)		
Loan from the European Investment Bank	32	8
Other loans from banks	184	8
Other debt	17	–
Short-term debt and current maturities of long-term debt	233	16
Long-term (over 1 year)		
Loan from the European Investment Bank	152	184
Long-term debt	152	184
Debt	385	200

Change in Debt

in € million

	Fiscal year	
	2018	2017
Debt as of beginning of fiscal year	200	62
Proceeds from issuance of long-term debt	-	150
Repayment of long-term debt	(8)	(8)
Net cash inflow/outflow from changes in short-term debt	195	(3)
Debt as of fiscal year end	385	200

The loan from the European Investment Bank comprises a fixed-rate tranche of €150 million (previous year: €150 million) and a variable-rate tranche of €34 million (previous year: €42 million). A sum of €8 million was repaid as scheduled during the fiscal year (previous year: €8 million), which meant the amount borrowed as of September 30, 2018, totaled €184 million (previous year: €192 million). 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 0.221% p.a. as of September 30, 2018 (previous year: 0.211% p.a.). The loans are scheduled to be repaid in installments by the maturity date at the end of 2024. The clause in the loan agreement relating to the financial position of the OSRAM Licht Group (financial covenants), which reflects normal business practice and according to which the ratio of net debt to EBITDA may not exceed 2.5:1, was complied with in full.

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, 2018, €179 million was drawn down under the credit facility (previous year: €0 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 clause in the loan agreement relating to the financial position of the OSRAM Licht Group (financial covenants), which reflects normal business practice and according to which the ratio of net debt to EBITDA may not exceed 2.5:1, was complied with in full.

Other than the drawdown of €179 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: €8 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 a loan from the non-controlling investor Continental.

191 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 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 2018, contributions to defined contribution plans amounted to €12 million (previous year: €17 million), and to government plans €102 million (previous year: €113 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 fixed income 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 Calculation of the DBO

	OSRAM September 30, 2018	OSRAM (continuing operations) September 30, 2017
Discount rate	2.54%	3.01%
Germany	1.76%	1.88%
U.S.A.	4.26%	3.77%
Mortality tables		
Germany	Richttafeln Heubeck 2005G	Richttafeln Heubeck 2005G
U.S.A.	RP2014 Generational Projected from 2006 with MP2017	RP2014 Generational Projected from 2006 with MP2016

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. According to Heubeck Richttafeln-GmbH, the DBO will be higher—albeit not significantly—and there will be a corresponding decrease in equity when the new mortality tables are applied.

According to initial estimates, the annual modification to the U.S. mortality tables, which were published in late October 2018, would have resulted in an insignificantly lower DBO.

In Germany, a pension progression rate of 1.75% was applied for the legacy defined benefit plans as of September 30, 2018, and 2017. 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, 2018.

Sensitivity Analysis

in € million

	Effect on DBO as of September 30, 2018, due to	
	50-basis-points increase	50-basis-points decrease
Discount rate	(67)	75
Rate of pension progression	33	(34)

A 10% decrease in mortality probability for each age would result in an increase in the DBO of €29 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 13.2 years (previous year: 11.9 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, 2018, and 2017. The funded status of these plans and the reconciliation of the funded status to the carrying amounts contained in the related statement of financial position items were as follows for fiscal years 2018 and 2017:

Commitments by Type and Financial Position

in € million

	September 30,	
	2018	2017
DBO for funded plans	(962)	(1,684)
Fair value of plan assets	946	1,675
Funded status of funded plans (funding ratio 98%; previous year 99%)	(16)	(9)
DBO for unfunded plans	(125)	(127)
Funded status	(141)	(135)
Pension plans	(68)	(60)
Similar commitments	(73)	(75)
Reconciliation to the financial position		
Liabilities for pension plans and similar commitments	162	150
Other assets	21	15

Before the end of fiscal year 2018, commitments 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 €14 million, represented the largest share of the overfunded plans as of September 30, 2018.

The pension plan surplus in Canada remains stable at €4 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	
	2018	2017
Current service cost	25	25
Past service cost/(income)	1	(3)
Settlement loss/(gain)	(5)	0
Net interest income	(1)	0
Net interest cost	5	5
Liability administration cost	1	1
Defined benefit cost recognized in consolidated statement of income	25	28
<i>Germany</i>	22	20
<i>U.S.A.</i>	1	4
<i>Other countries</i>	3	3
Return on plan assets excluding amounts included in net interest on the net defined benefit liability (asset)	45	31
Actuarial (gains) and losses arising from changes in demographic assumptions	(8)	15
Actuarial (gains) and losses arising from changes in financial assumptions	(33)	(107)
Actuarial (gains) and losses arising from experience adjustments	(1)	(6)
Remeasurements of the net defined benefit liability (asset) recognized in consolidated statement of other comprehensive income	(2)	(67)
<i>Germany</i>	(6)	(37)
<i>U.S.A.</i>	1	(26)
<i>Other countries</i>	3	(4)
Defined benefit cost	23	(39)

In addition to the amounts presented above, a sum of €12 million that had arisen from the remeasurement of pensions in the discontinued operation up to the date of the deconsolidation of LEDVANCE had a positive impact on other comprehensive income (loss) in the previous year.

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 2018 and 2017 is provided in the following table:

Change in DBO

in € million

	Fiscal year	
	2018	2017
DBO at beginning of fiscal year	1,810	1,996
Current service cost	25	25
Past service cost/(income)	1	(3)
Settlements	(683)	0
Interest cost	52	50
Remeasurements:		
Actuarial (gains) and losses arising from changes in demographic assumptions	(8)	15
Actuarial (gains) and losses arising from changes in financial assumptions	(33)	(107)
Actuarial (gains) and losses arising from experience adjustments	(1)	(6)
Plan participants' contributions	6	6
Benefits paid	(98)	(107)
Acquisitions	2	0
Divestments	-	0
Foreign currency translation effects	15	(59)
DBO at end of fiscal year	1,087	1,810
<i>Germany</i>	<i>706</i>	<i>692</i>
<i>U.S.A.</i>	<i>297</i>	<i>1,034</i>
<i>Other countries</i>	<i>83</i>	<i>84</i>
Active employees	406	406
Former employees with vested benefits	234	240
Retirees and surviving dependents	447	1,164

A detailed reconciliation of the changes in the fair value of plan assets for fiscal years 2018 and 2017 is provided in the following table:

Change in Plan Assets

in € million

	Fiscal year	
	2018	2017
Fair value of plan assets at beginning of fiscal year	1,675	1,794
Interest income	48	45
Remeasurement:		
Return on plan assets excluding amounts included in net interest on the net defined benefit liability (asset)	(45)	(31)
Employer contributions	17	20
Plan participants' contributions	2	2
Benefits paid	(86)	(97)
Settlements	(678)	–
Acquisitions	1	0
Liability administration cost	(1)	(1)
Foreign currency translation effects	13	(56)
Fair value of plan assets at end of fiscal year	946	1,675
<i>Germany</i>	<i>662</i>	<i>662</i>
<i>U.S.A.</i>	<i>218</i>	<i>947</i>
<i>Other countries</i>	<i>66</i>	<i>66</i>

The employer contributions to the funded pension plans amounted to €17 million in fiscal year 2018. Of this amount, €14 million was attributable to the German pension plans, €2 million to the U.S. pension plan, and €1 million to the pension plan in Canada.

Composition of Plan Assets

in € million

	September 30,	
	2018	2017
Equity funds	136	188
Global equities	77	76
U.S. equities	20	41
European equities	15	14
Emerging markets equities	14	14
Other (mainly global equities ex U.S. equities)	10	43
Fixed income	756	1,364
Government bonds	214	309
Corporate bonds	542	1,055
Mixed funds	37	29
Commodities	2	6
Cash and other assets	6	18
Derivatives	1	19
Plan assets that do have a quoted market price in an active market	937	1,623
Cash and other assets	27	71
Derivatives	(18)	(19)
Plan assets that do not have a quoted market price in an active market	9	52
Fair value of plan assets at end of fiscal year	946	1,675

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.

20 | Provisions

Provisions

in € million

	Warranties	Order-related losses and risks	Other legal proceedings	Others	Total
Balance as of October 1, 2017	49	15	8	35	108
Additions	5	7	1	12	26
Usage	(11)	(11)	(2)	(1)	(25)
Reversals	(6)	0	(1)	(5)	(12)
Translation differences	0	0	0	0	0
Changes of the group of consolidated companies and other changes	1	–	2	1	3
Balance as of September 30, 2018	39	12	7	42	100
therein non-current	8	–	0	17	26

Warranties relate primarily 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 23 | Legal Proceedings](#).

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The *Others* item includes provisions for obligations arising from the sale of LEDVANCE amounting to €12 million (previous year: €13 million) and provisions for leasehold improvement reinstatement obligations of €4 million as of September 30, 2018 (previous year: €3 million).

21 | Other Liabilities

Other Liabilities

in € million

	September 30,	
	2018	2017
Employee-related liabilities	57	47
Deferred compensation plan	31	30
Other	33	35
Other liabilities	121	111

Employee-related liabilities contain, in particular, early retirement and termination benefit obligations.

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

22 | Other Financial Commitments and Contingent Liabilities

As of September 30, 2018, there were no contingent liabilities in connection with significant legal proceedings (previous year: €39 million). 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 23 | Legal Proceedings](#).

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As of September 30, 2018, further undiscounted contingent liabilities mainly comprised guarantees entailing maximum future payments of €33 million (previous year: €44 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.

In relation to Innoventure, 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 nonfulfillment 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, 2018, and 2017:

Future Payment Obligations under Non-cancelable Operating Leases

in € million

	September 30,	
	2018	2017
Within one year	50	43
Between one and five years	134	116
After five years	59	50
Future payment obligations under non-cancelable operating leases	243	210

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 €12 million (previous year: €11 million) and contingent future rental income of €5 million (previous year: €3 million). Total operating lease expenses in respect of third parties amounted to €63 million in fiscal year 2018 (previous year: €58 million). Of this amount, €2 million was attributable to contingent lease payments in fiscal year 2018 (previous year: €2 million).

23 | Legal Proceedings

Product Liability Cases

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 next steps in the proceedings are to be discussed at the next appointment on November 20, 2018.

OSRAM was named as a defendant in various other legal disputes and proceedings in connection with its business activities. 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.

24 | Equity

Common Stock and Treasury Shares

The common stock of OSRAM Licht AG amounted to €104,689,400 as of both reporting dates and is divided into 104,689,400 no-par-value ordinary registered shares. 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 Stock and Shares Outstanding

shares

	Treasury stock		Shares outstanding	
	Fiscal year		Fiscal year	
	2018	2017	2018	2017
As of the beginning of fiscal year	8,289,639	5,324,735	96,399,761	99,364,665
Share buyback	–	3,089,436	–	(3,089,436)
Issue to beneficiaries of the transaction bonus	(10,289)	(63,407)	10,289	63,407
Issue to beneficiaries of the OSRAM Stock Awards Program	(98,151)	–	98,151	–
Issue in connection with the employee share purchase program (Base Share Program)	(35,690)	(61,125)	35,690	61,125
As of the end of fiscal year	8,145,509	8,289,639	96,543,891	96,399,761

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.

This resolution cancelled the Managing Board's previous authorization to increase OSRAM Licht AG's common stock, subject to the approval of the Supervisory Board, by up to €52,344,700 by issuing up to 52,344,700 new registered no-par-value shares for cash and/or non-cash contributions on one or more occasions. The authorization was originally valid until February 28, 2018.

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.

This resolution cancelled the Managing Board's previous authorization to create new contingent capital (Contingent Capital 2013). The authorization, which was originally valid until February 28, 2018, permitted a contingent increase in the common stock by up to €10,207,216, comprising up to 10,207,216 no-par-value registered shares, by issuing bearer or registered convertible bonds or warrants ('bonds') in an aggregate principal amount of up to €300,000,000.

Additional Paid-in Capital

The change in additional paid-in capital in fiscal years 2018 and 2017 was the result of share-based payment transactions [▶ Note 28 | Share-based Payment](#).

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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 were also included in an amount of €67 million in connection with the OSRAM CONTINENTAL transaction [▶ Note 3 | Acquisitions, Disposals, and Discontinued Operations](#).

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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.

Non-controlling Interests

The increase in non-controlling interests in fiscal year 2018 was essentially due to the OSRAM CONTINENTAL transaction [▶ Note 3 | Acquisitions, Disposals, and Discontinued Operations](#).

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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 the second quarter of fiscal year 2018, a dividend of €107 million was distributed from the unappropriated profit of OSRAM Licht AG for fiscal year 2017 in accordance with the resolution adopted at the Annual General Meeting on February 20, 2018. This corresponds to a dividend of €1.11 per dividend-bearing ordinary share. For fiscal year 2018, the Managing Board and Supervisory Board are proposing to distribute a dividend of €1.11 per dividend-bearing ordinary share. This would equate to a total payout of around €107 million from the unappropriated profit of OSRAM Licht AG, based on the 96,543,891 shares outstanding as of September 30, 2018. The total dividend payout may still change if treasury shares are issued or repurchased before the date of the Annual General Meeting. Payment of this dividend is subject to approval by the Annual General Meeting on February 19, 2019.

B.6.7 Other Disclosures

25 | 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 58% as of the end of fiscal year 2017 to approximately 57% as of the end of fiscal year 2018.

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

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Capital Structure Data

in € million

	September 30,	
	2018	2017
EBITDA OSRAM (continuing operations)	477	621
Net debt/net liquidity	(51)	411
Net debt/net liquidity in relation to EBITDA	(0.1)	0.7
Adjusted net debt/net liquidity	(213)	261
Adjusted net debt/net liquidity in relation to EBITDA	(0.4)	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 24 | Equity](#). Existing credit lines are described in [Note 18 | Debt](#).

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

26 | Financial Instruments

Carrying Amounts and Fair Values of Financial Assets and Liabilities

in € million

	Category according to IAS 39	Fair value hierarchy ¹⁾	September 30, 2018		September 30, 2017	
			Carrying amount	Fair value	Carrying amount	Fair value
Financial assets						
Cash and cash equivalents ²⁾	n.a.	n.a.	333	333	609	609
Available-for-sale financial assets	AfS	Level 1	5	5	2	2
Trade receivables	LaR	n.a.	614	614	634	634
Other financial assets						
Derivatives not designated in a hedge accounting relationship	FAHfT	Level 2	4	4	2	2
Derivatives in connection with cash flow hedges	n.a.	Level 2	–	–	0	0
Other financial assets	LaR	n.a.	60	60	55	55
Assets held for sale	LaR	n.a.	34	34	1	1
Financial liabilities						
Debt						
Loans from banks	FLaC	n.a.	368	368	200	200
Other debt	FLaC	n.a.	17	17	–	–
Trade payables	FLaC	n.a.	714	714	752	752
Other financial liabilities						
Derivatives not designated in a hedge accounting relationship	FLHfT	Level 2	7	7	4	4
Derivatives in connection with cash flow hedges	n.a.	Level 2	9	9	0	0
Other financial liabilities	FLaC	n.a.	49	49	35	35
Liabilities associated with assets held for sale	FLaC	n.a.	8	8	0	0

1) Only relevant for financial instruments carried at fair value. All other financial instruments are carried at cost or amortized cost.

2) 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. In the previous year, it also included money market instruments of €63 million.

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	2017
Loans and receivables	LaR	708	690
Financial assets held for trading	FAHFT	4	2
Available-for-sale financial assets	AfS	5	2
Financial liabilities measured at amortized cost	FLaC	1,155	986
Financial liabilities held for trading	FLHFT	7	4

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

Hierarchy Level 1 for Determining Fair Value

OSRAM derives the fair values of available-for-sale financial assets from quoted market prices in an active market.

Hierarchy Level 2 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.

Hierarchy Level 3 for Determining Fair Value

The fair values are determined using inputs that are not observable in the market and require management assumptions, including projected cash flows.

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, 2018		September 30, 2017	
	Assets	Liabilities	Assets	Liabilities
Foreign currency exchange contracts	4	14	1	5
Commodity derivatives	0	1	1	0
Fair value	4	15	2	5

Net gains/losses on financial instruments, excluding foreign currency gains and losses, were as follows:

Net Gains/Losses on Financial Instruments

in € million

	Fiscal year	
	2018	2017
Loans and receivables	(1)	1
Available-for-sale financial assets	1	-
Financial assets and financial liabilities held for trading	(19)	(2)

Net gains/losses on loans and receivables contain changes in valuation allowances, gains or losses on derecognition, as well as recoveries of loans and receivables previously written off.

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 €6 million in the fiscal year under review (previous year: net gain of €5 million).

The interest income from financial assets measured at amortized cost included in the line items *Interest income* and *Net income (loss) from discontinued operations* in the consolidated statement of income amounted to €3 million (previous year: €8 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 *Net income (loss) from discontinued operations* in the consolidated statement of income amounted to €7 million (previous year: €8 million); these interest expenses largely related to debt.

In connection with cash flow hedges, realized net hedging losses before tax amounting to €10 million (previous year: net hedging gains of €2 million) were reclassified from *Other components of equity* in the consolidated statement of financial position to the consolidated statement of income; the net hedging gains or losses recognized in other comprehensive income (loss) amounted to a net loss of €18 million (previous year: net gain of €1 million).

27 | 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.

The policies for the foreign currency management system used throughout the Group were amended with effect from February 1, 2018. Now, every OSRAM company is obliged 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,	
	2018	2017
Gross exposure before hedging	182	(200)
Net exposure after hedging	2	(43)

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. As of September 30, 2018, and 2017, the residual maturities of the derivatives accounted for as cash flow hedges were a maximum of nine or five months.

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, 2018, and 2017, would result in the following pre-tax effects:

Sensitivity Analysis USD/EUR

in € million

	Change of exchange rate as of September 30, 2018		Change of exchange rate as of September 30, 2017	
	by +10%	by -10%	by +10%	by -10%
Net income (loss) before income taxes OSRAM Licht Group (total)	(2)	2	(2)	2
Other income (loss) before income taxes	19	(23)	3	(3)
Total effect on equity	17	(21)	1	1

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,	
	2018	2017
Cash and cash equivalents	333	609
Debt ¹⁾	(385)	(200)
Exposure	(52)	409
Annual effect of an interest increase by 100 basis points	(1)	4
Annual effect of an interest decrease by 25 basis points	0	(1)

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 IAS 39, 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.

In fiscal year 2018, a large proportion of the requirement for precious metals (particularly gold) that can be recovered in the semiconductor manufacturing process was met using lending transactions for the first time. 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 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, 2018, would lead to an increase of €1 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, 2018, the liquidity reserve in the form of cash and cash equivalents amounted to €333 million (previous year: €609 million). OSRAM also had at its disposal unused lines of credit totaling €771 million as of September 30, 2018 (previous year: €950 million).

The following table shows all contractually fixed payments for settlement, repayments, and interest resulting from recognized financial liabilities as of September 30, 2018, 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, 2018.

Settlement, Repayments, and Interest

in € million

	September 30,		
	2019	2020 to 2023	2024 and thereafter
Non-derivative financial liabilities			
Loans from banks	217	124	30
Other debt	17	-	-
Trade payables	714	-	-
Other financial liabilities	24	24	
Derivative financial liabilities	15	-	-
Total financial liabilities	987	149	30

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 and cash equivalents, e.g., money market instruments, 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 €11 million were collateralized as of September 30, 2018 (previous year: €12 million), primarily by means of guarantees.

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, 2018, and 2017, there were no significant concentrations of credit risk.

As of September 30, 2018, there were no indications that any payment defaults would materialize in respect of the trade receivables, other receivables, and other loans and receivables within the line item *Other financial assets* that were neither past due nor impaired.

28 | 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 2018 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 lock-up period.

The remuneration expense related to the stock awards is recognized over a four-year vesting period. Only upon expiration of the four-year lock-up 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 lock-up period. During the lock-up period, the beneficiaries are not entitled to dividends. Stock awards may not be sold, transferred, pledged, or otherwise encumbered during the lock-up 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. The liabilities of €5 million recognized for the discontinued operation in connection with the program were eliminated from the OSRAM Licht Group in fiscal year 2017 upon deconsolidation of the discontinued operation.

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 2018. The pre-tax expense in fiscal year 2018 for stock awards that are instead settled in cash on the basis of a Managing Board resolution amounted to €0 million (previous year: €1 million).

OSRAM Stock Awards

	Fiscal year			
	2018		2017	
	Executive employees	Board	Executive employees	Board
Grant date	11/8/2017	11/8/2017	11/10/2016	11/10/2016
Fair value	€64.47	€60.27	€44.21	€38.55
Number of stock awards granted	97,103	38,255	171,339	40,993
Fair value of new awards at grant date	€6 million	€2 million	€8 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 lock-up period of around four years. Starting with stock awards granted for fiscal year 2014, 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 2018. 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 the share-based remuneration is agreed and ends upon expiration of the four-year lock-up 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 2018, 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 stock awards were exercised whose lock-up period had expired, 10,289 shares were transferred to former members of the Managing Board in November 2017; 67,037 awards were paid out in cash.

Base Share Program

In fiscal year 2018, 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 2018, this program resulted in expenses (before tax) for the participating companies of €1 million (previous year: €1 million).

29 | Personnel Costs

Personnel Costs

in € million

	Fiscal year	
	2018	2017
Wages and salaries	(1,147)	(1,049)
Statutory social welfare contributions and expenses for optional support	(181)	(171)
Expenses relating to pension plans and employee benefits	(37)	(55)
Personnel costs	(1,366)	(1,275)

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	
	2018	2017
Production and service	20,490	19,683
Selling	2,463	2,498
Administration and general services	1,284	1,267
Research and development	2,746	2,485
Employees	26,983	25,934

30 | Earnings per Share

Earnings per Share

in € million, unless otherwise stated

		Fiscal year	
		2018	2017
Net income		141	224
Less: portion attributable to non-controlling interests		3	3
Net income attributable to shareholders of OSRAM Licht AG		137	220
Weighted average shares outstanding – basic	in thousands	96,525	97,243
Effect of dilutive potential equity instruments	in thousands	400	431
Weighted average shares outstanding – diluted	in thousands	96,926	97,675
Basic earnings per share	in €	1.42	2.27
Diluted earnings per share	in €	1.42	2.26
Basic earnings per share OSRAM (continuing operations)	in €	1.44	2.79
Diluted earnings per share OSRAM (continuing operations)	in €	1.44	2.78
Basic earnings per share OSRAM (discontinued operation)	in €	(0.02)	(0.53)
Diluted earnings per share OSRAM (discontinued operation)	in €	(0.02)	(0.52)

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 2018 and 2017. As of September 30, 2018, 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 the second quarter of fiscal year 2018, a dividend of €107 million was distributed from the unappropriated profit of OSRAM Licht AG for fiscal year 2017 in accordance with the resolution adopted at the Annual General Meeting in February 2018. This corresponds to a dividend of €1.11 per dividend-bearing share.

31 | 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.

OSRAM has three reportable segments: Opto Semiconductors (OS), Specialty Lighting (SP), and Lighting Solutions & Systems (LSS).

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.

Specialty Lighting

The Specialty Lighting Segment develops and produces lamps and lighting systems for the automotive sector, stage, cinema, and studio lighting, plant cultivation systems, and special lamps for industrial and medical applications. The new subsidiary, OSRAM CONTINENTAL, develops and markets automotive systems based on LED and laser technology as well as other customer-specific system solutions.

Lighting Solutions & Systems

The Digital Systems (DS) Business Unit develops, produces, and markets LED light engines (a combination of an LED module and the related electronic control gear), electronic ballasts for LED modules and traditional lamps, and light management systems.

The Lighting Solutions (LS) Business Unit is involved in the production and sale of luminaires, the design and implementation of lighting solutions, and the service business. In particular, its products cater to customer-specific requirements in the areas of street lighting and architectural lighting as well as professional interior lighting applications.

The Digital Lumens (DL) Operating Segment develops and markets industrial applications for the Internet of Things. Due to their homogeneous business activities and economic characteristics, the DS and LS Business Units plus the Digital Lumens operating segment are grouped in a single reporting segment.

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 2018, the EBITDA column of the *Corporate items and pensions* line item included €-92 million (previous year: €-89 million) relating to *Corporate items* and €-5 million (previous year: €-7 million) relating to *Pensions*. The most significant influence on Corporate items in fiscal year 2018 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 €51 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 €8 million for 'innovenures', i.e., units focused on pursuing new, innovative business ideas. Special items of €-27 million (previous year: €-1 million), which largely comprised restructuring expense, were reported under *Corporate items*.

Eliminations, Corporate Treasury, and Other Reconciling Items

Eliminations, corporate treasury, and other reconciling item 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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Since fiscal year 2016, the costs of Group headquarters have generally been 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, and depreciation and amortization (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. Pension plan curtailments are regarded as a partial payback reimbursement of past service cost, which affects segment profit or loss.

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	
	2018	2017
EBITDA	477	621
Depreciation	(232)	(198)
Amortization	(35)	(26)
Interest income	3	7
Interest expenses	(10)	(12)
Other financial income (expenses), net	0	(1)
Income (loss) from investments accounted for using the equity method, net	(4)	(2)
Income before income taxes OSRAM (continuing operations)	197	389

Reconciliation Total Segment Net Capital Employed to Total Assets

in € million

	September 30,	
	2018	2017
Total segment net capital employed	2,686	1,928
Reconciliation to consolidated financial statements		
Net capital employed corporate items and pensions	(141)	(126)
Net capital employed Treasury ¹⁾	281	617
Other reconciling items		
Tax related assets	358	349
Liabilities and provisions	1,545	1,469
Total assets	4,730	4,238

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	
	2018	2017
Segments		
Opto Semiconductors	–	–
Specialty Lighting	(3)	–
Lighting Solutions & Systems	(2)	(2)
Reconciliation to consolidated financial statements		
Corporate items and pensions	1	–
Income (loss) from investments accounted for using the equity method, net	(4)	(2)

Revenue by Regions

in € million

	By location of customer		By location of company	
	Fiscal year		Fiscal year	
	2018	2017	2018	2017
EMEA	1,514	1,553	1,560	1,636
APAC	1,469	1,445	1,419	1,381
Americas	1,132	1,129	1,137	1,111
OSRAM (continuing operations)	4,115	4,128	4,115	4,128
thereof Germany	659	664	1,094	1,137
thereof foreign countries	3,456	3,463	3,021	2,990
therein U.S.A.	904	880	1,023	981
therein China (including Hong Kong) and Taiwan	883	837	1,089	1,163

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,	
	2018	2017
EMEA	1,037	794
APAC	770	633
Americas	480	259
OSRAM (continuing operations)	2,287	1,686
thereof Germany	873	630
thereof foreign countries	1,414	1,056
therein Malaysia	581	458
therein U.S.A.	456	250
therein China (including Hong Kong) and Taiwan	178	171

Non-current assets consist of property, plant, and equipment, goodwill, and other intangible assets.

321 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	
	2018	2017	2018	2017
Associates and joint ventures	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

	Receivables		Liabilities	
	September 30,		September 30,	
	2018	2017	2018	2017
Associates and joint ventures	1	-	-	-

OSRAM regularly reviews, in the normal course of business, loans and receivables associated with joint ventures and associates. This review did not lead to any valuation allowances being recognized or reversed in the reporting period. All receivables from and payables to related parties are settled regularly.

As of September 30, 2018, and 2017, accumulated valuation allowances on loans and receivables amounted to €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 2018, the members of the Managing Board received cash remuneration of €3 million (previous year: €6 million). The fair value of the share-based remuneration as of the grant date of November 8, 2017, was €2 million (previous year: €2 million). Contributions to the BOA for the members of the Managing Board in fiscal year 2018 amounted to €1 million (previous year: €1 million).

The remuneration and benefits granted to the members of the Managing Board totaled €6 million in fiscal year 2018 and €9 million in fiscal year 2017.

Equity-settled share-based payments under OSRAM programs gave rise to an expense of €1 million in fiscal year 2018 (previous year: expense of €1 million). For additional information, see [► Note 28 | Share-based Payment](#).

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Former members of the Managing Board of OSRAM Licht AG and former managing directors of OSRAM GmbH and their surviving dependents received aggregate remuneration within the meaning of section 314(1) no. 6 b of the HGB amounting to €1 million in fiscal year 2018 (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 €16 million as of September 30, 2018 (previous year: €14 million). For further information, see [► Note 19 | 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 2018 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.

Dr. Werner Brandt resigned as a member of the Supervisory Board with effect from December 31, 2017. On February 20, 2018, the Annual General Meeting elected Peter Bauer, Dr. Christine Bortenlänger, Dr. Roland Busch, Dr. Margarete Haase, Professor Dr. Lothar Frey, and Frank Lakerveld as the members of the Supervisory Board representing the shareholders. On the same day, Dr. Haase was also elected as a member and the Chair of the Audit Committee, succeeding Dr. Brandt. Professor Dr. Lothar Frey died on June 24, 2018. He had been a member of the Supervisory Board of OSRAM Licht AG, representing the shareholders, since August 27, 2013. By way of an order dated August 17, 2018, the Munich local court (registration court) appointed Arunjai Mittal to succeed Professor Dr. Lothar Frey as a member of the Supervisory Board.

At its meeting on September 25, 2018, the Supervisory Board of OSRAM Licht AG extended the appointment of Dr. Stefan Kampmann as a member of the Company's Managing Board with effect from July 1, 2019, to June 30, 2024, and the appointment of Ingo Bank as a member of the Company's Managing Board with effect from September 1, 2019, to August 31, 2024. On the same day, the Supervisory Board of OSRAM GmbH extended the appointments of Dr. Kampmann and Mr. Bank as managing directors of OSRAM GmbH with effect from July 1, 2019, to June 30, 2024 (Dr. Kampmann), and from September 1, 2019, to August 31, 2024 (Mr. Bank).

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.

331 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 2018 and 2017:

Auditor's Fees

in € million

	Fiscal year			
	2018	2017		Summe
			Carve-Out project Lamps	
Audit services	4	3	1	4
thereof EY GmbH	2	2	1	2
Audit-related services	1	0	1	1
thereof EY GmbH	0	0	1	1
Tax advisory services	–	–	–	–
thereof EY GmbH	–	–	–	–
Other services	0	–	0	0
thereof EY GmbH	0	–	0	0
Total auditor's fees	4	4	1	5
thereof EY GmbH	3	2	1	3

The total fees comprise the expenses incurred by OSRAM Licht AG and all consolidated subsidiaries. The *Audit services* line item for fiscal year 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.

The fees reported under *Audit-related services* mainly relate to assurance services for the tax control system that are not required by law, assurance services for non-financial information that are not required by law, and assurance services in connection with sales packaging and license fees (some that are and some that are not required by law).

34 | Corporate Governance

As of September 25, 2018, 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](http://www.osram-group.com/en/our-company/our-management/corporate-governance).

35 | Events After the Reporting Date

With the approval of the Supervisory Board, the Managing Board of OSRAM Licht AG resolved on November 6, 2018, to redeem 7,841,326 of the treasury shares held by the Company and thus reduce the Company's registered share capital by €7,841,326, from €104,689,400 to €96,848,074. This reduction of the capital stock was entered in the commercial register on November 13, 2018. The intention is to use the remaining 304,183 treasury shares to fulfill existing and future delivery obligations from share programs.

With the approval of the Supervisory Board, the Managing Board of OSRAM Licht AG resolved on November 6, 2018, to buy-back shares of the Company up to a maximum of 10% of the respective registered share capital of the Company, however for a total maximum purchase price without ancillary costs of up to €400 million. The measure shall serve the purpose of further optimizing the capital structure of the Company and shall be implemented, inter alia, against the background that no larger company acquisitions have been made. The buy-back program is based on the authorization of the Annual General Meeting on February 14, 2017, and is expected to be carried out in the period from January 2019 to June 2020.

In November 2018, the Managing Board adopted a new strategy for the business units of OSRAM [» A.2.3.7 Changes to the Organizational and Segment Structure in Fiscal Year 2019](#).

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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, 2018.

36 | List of Equity Investments of the OSRAM Licht Group in Accordance with
 Section 313 of the HGB

List of Equity Investments of OSRAM Licht AG

Status as of September 30, 2018

	Capital Share in %
Equity investments of OSRAM Licht AG, Munich / Germany	
OSRAM Beteiligungen GmbH, Munich / Germany	100.00
OSRAM GmbH, Munich / Germany	100.00
Subsidiaries of OSRAM GmbH, Munich / Germany	
Germany (as of September 30, 2018: 11 companies)	
BAG electronics GmbH, Arnsherg	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 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, 2018: 33 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
OSRAM Continental France SAS, Toulouse / France	50.00 ²⁾
OSRAM Lighting S.A.S.U., Molsheim / France	100.00
ADB STAGELIGHT S.A.S.U., Saint-Quentin / France	100.00
OSRAM Ltd., Slough, Berkshire / Great Britain	100.00
LUX365 Limited, Bolton / Great Britain	100.00
Yekta Setareh Atlas Co. (P.J.S.), Teheran / Iran	100.00
OSRAM S.p.A. - Società Riunite OSRAM Edison Clerici, 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
Fluence Bioengineering B.V., Schiphol / Netherlands	100.00
OSRAM Benelux B.V., Capelle aan den IJssel / Netherlands	100.00
OSRAM 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
OSRAM, Lda, Carnaxide / Portugal	100.00
OSRAM Continental Romania S.R.L., Iasi / Romania	50.00 ²⁾
OSRAM Romania S.R.L., Bucharest / Romania	100.00
OOO OSRAM, Moscow / Russia	100.00
OSRAM AB, Stockholm / Sweden	100.00
OSRAM Lighting AG, Winterthur / Switzerland	100.00

List of Equity Investments of OSRAM Licht AG

Status as of September 30, 2018

	Capital Share in %
OSRAM, a.s., Nové Zámky / Slovakia	100.00
OSRAM Lighting 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, 2018: 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⁾
Traxon Supply USA Inc., Nyack, New York / USA	100.00
LedEngin, Inc., San Jose, California / USA	100.00
Digital Lumens Inc., Wilmington, Delaware / USA	100.00
Fluence Bioengineering, Inc., Wilmington, Delaware / USA	100.00
OSRAM Opto Semiconductors, Inc., Wilmington, Delaware / USA	100.00
OSRAM SYLVANIA INC., Wilmington, Delaware / USA	100.00
Sylvania Lighting Services Corp., Wilmington, Delaware / USA	100.00
Vixar, Inc., Wilmington, Delaware / USA	100.00
OSRAM CONTINENTAL USA Inc., Wilmington, Delaware / USA	50.00 ²⁾
APAC (as of September 30, 2018: 26 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 Opto Semiconductors (China) Co., Ltd., Wuxi New District / 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., Wanchai / 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

List of Equity Investments of OSRAM Licht AG

Status as of September 30, 2018

	Capital Share in %
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
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, 2018: 4 companies)	
agrilution GmbH, Munich	15.00 ³⁾
Blickfeld GmbH, Munich	12.55 ³⁾
GoodIP GmbH, Munich	10.00 ³⁾
iThera Medical GmbH, Munich	10.00 ³⁾
EMEA (excluding Germany) (as of September 30, 2018: 4 companies)	
EMGO N.V., Lommel / Belgium	50.00
LAMP NOOR (P.J.S.) Co., Teheran / Iran	20.00 ¹⁾
Tvilight B.V., Groningen / Netherlands	47.50
beaconsmind AG, Zurich / Switzerland	12.50 ³⁾
Americas (as of September 30, 2018: 3 companies)	
CVL Componentes de Vidro Ltda., Caçapava - SP / Brazil	50.00
LeddarTech Inc., Québec / Canada	29.05
Motorleaf Inc., Montreal / Canada	11.20 ³⁾
APAC (as of September 30, 2018: 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, 2018: 3 companies)	
GSB - Sonderabfall-Entsorgung Bayern GmbH, Baar-Ebenhausen	0.07
beaconinside GmbH, Berlin	6.50
Unternehmertum VC Fonds II GmbH & Co. KG, Garching b. München	7.74
EMEA (excluding Germany) (as of September 30, 2018: 4 companies)	
KNX Association cvba, Brussels-Diegem / Belgium	2.96
Design LED Products Limited, Edinburgh / Great Britain	6.03
Partech Partners S.A.S., Paris / France	14.14
Voltimum S.A., Meyrin / Switzerland	13.71
Americas (as of September 30, 2018: 2 companies)	
Luminaerospace LLC, Denver, Colorado / USA	2.00
TetraVue, Inc., Wilmington, Delaware / USA	5.30

1) Not accounted for using the equity method due to immateriality.

2) Control on the basis of contractual agreements that enable relevant activities to be directed.

3) Significant influence on the basis of contractual provisions or legal arrangements.

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Supervisory Board of OSRAM Licht AG

Members in Office as of September 30, 2018	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 Member of the Supervisory Board of Bragi GmbH, Munich Intragroup: 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. 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. 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 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
Michael Knuth Deputy Chairman Born April 29, 1957 Trade Union Secretary for IG Metall Bavaria	September 3, 2013	Member of the Supervisory Board of FTE Group Holding GmbH, Ebern Intragroup: Deputy Chairman 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 Aliaxis S.A., Belgium Member of the Supervisory Board of Technische Unie, Netherlands Member of the Supervisory Board of Sonepar S.A., France Chairman of the Supervisory Board of Sonepar Nederland B.V., Netherlands Chairman of the Supervisory Board of OTRA N.V., Netherlands Chairman of the Advisory Board of Sonepar Deutschland GmbH, Düsseldorf Chairman of the Supervisory Board of Sonepar US Holding, Inc., U.S.A. 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. (ATPL) :: 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 Schulz 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 Weinger 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 Wetzel 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

1) As of September 30, 2018.

Supervisory Board of OSRAM Licht AG

Former Members in Fiscal Year 2018	Member from/to	Supervisory Board and Comparable Appointments ¹⁾
Dr. Werner Brandt Born January 3, 1954 Independent management consultant, former member of the Executive Board of SAP SE	August 7, 2014 to December 31, 2017	Chairman of the Supervisory Board of ProSiebenSat.1 Media SE, Unterföhring Member of the Supervisory Board of Deutsche Lufthansa Aktiengesellschaft, Cologne Chairman of the Supervisory Board of Innogy SE, Essen Chairman of the Supervisory Board of RWE Aktiengesellschaft, Essen Intragroup: Member of the Supervisory Board of OSRAM GmbH, Munich
Prof. Dr. Lothar Frey Born June 7, 1958; died June 24, 2018 Professor at the University of Erlangen-Nuremberg (Chair of Electron Devices) and Head of the Fraunhofer Institute for Integrated Systems and Device Technology (IISB)	August 27, 2013 to June 24, 2018	Member of the Supervisory Board of IHP GmbH—Innovations for High Performance Microelectronics/Leibnitz-Institut für Innovative Mikroelektronik, Frankfurt (Oder) Intragroup: Member of the Supervisory Board of OSRAM GmbH, Munich

1) As of the date of the individual member's departure from the Supervisory Board of OSRAM Licht AG.

Committees of the Supervisory Board of OSRAM Licht AG

	Meetings in Fiscal Year 2018	Tasks	Members as of September 30, 2018
Executive Committee	October 27 and November 28, 2017; May 2 and September 20, 2018	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 Dr. Roland Busch Michael Knuth Thomas Wetzel
Audit Committee	November 6 and November 28, 2017; February 6, May 2, and July 30, 2018	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. Werner Brandt (until December 31, 2017) Dr. Margarete Haase (since February 20, 2018) Dr. Christine Bortenlänger Dr. Roland Busch Alexander Müller Ulrike Salb Irene Schulz
Nomination Committee	November 6, 2017; July 17, 2018	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. Werner Brandt (until December 31, 2017) Dr. Roland Busch Dr. Margarete Haase (since February 20, 2018)
Strategy and Technology Committee	November 27, 2017; February 6, May 3, and July 25, 2018	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 Prof. Dr. Lothar Frey (until June 24, 2018) Michael Knuth Frank H. Lakerveld Arunjai Mittal (from October 1, 2018) 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 Dr. Roland Busch Michael Knuth Thomas Wetzel

Managing Board of OSRAM Licht AG

Members in Office as of September 30, 2018	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), Specialty Lighting (SP), Digital Systems (DS), Lighting Solutions (LS) Business Units; Regions; Corporate Strategy; Corporate Sales; Corporate Communications & Brand Strategy; Corporate Office; 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	Corporate Controlling; Corporate Finance & Treasury; Taxes & Subsidiaries; Investor Relations; Information Technology; Corporate Audit; Mergers & Acquisitions; Post Closing Management; Financial organization of the Business Units	Intragroup: Member of the Supervisory Board of OSRAM Opto Semiconductors Gesellschaft mit beschränkter Haftung, Regensburg
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; Environment, Health & Safety; R&D organizations of the Business Units	

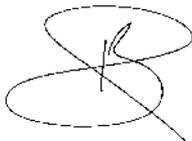
1) As of September 30, 2018.

Munich, November 19, 2018

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

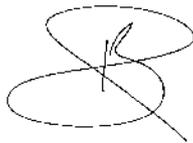
To the best of our knowledge, and in accordance with the applicable reporting principles, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the Group management report, which has been combined with the management 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 19, 2018

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, 2017 to September 30, 2018, the consolidated statement of financial position as of September 30, 2018, the consolidated statements of cash flows and changes in equity for the fiscal year from October 1, 2017 to September 30, 2018, 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, 2017 to September 30, 2018. 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 IFRS 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, 2018 and of its financial performance for the fiscal year from October 1, 2017 to September 30, 2018, 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, 2017 to September 30, 2018. 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) Acquisition of the light control business from Continental Automotive GmbH

Reasons why the matter was determined to be a key audit matter: OSRAM GmbH, Munich, and Continental Automotive GmbH, Hanover, contractually agreed on March 29, 2018 to contribute their respective automotive lighting business operations to OSRAM Continental GmbH, Munich, effective July 1, 2018. OSRAM GmbH, Munich, and Continental Automotive GmbH, Hanover, both have a 50% share in this company. In the course of this audit, we determined this to be a key audit matter as the agreement includes complex provisions and the Managing Board had to use judgment to evaluate whether the Company is controlled by OSRAM Licht AG and thus the light control business was acquired from Continental Automotive GmbH and to measure the consideration transferred and identify and value the assets contributed by Continental Automotive GmbH.

Auditor’s response: Our audit procedures focused on the measurement of the assets and liabilities of OSRAM Continental GmbH in the consolidated financial statements as well as on the analysis performed by the Managing Board on the relevant activities of OSRAM Continental GmbH and the evaluation of whether the Company is controlled by OSRAM Licht AG. We examined the underlying agreements and internal planning documents, interviewed the employees involved in negotiating the contracts at OSRAM and executives of OSRAM Continental GmbH, and we analyzed the business models of the business operations contributed by OSRAM GmbH and Continental Automotive GmbH with regard to the relevant activities. We reconciled the consideration transferred by OSRAM GmbH for the light control business in the form of a contribution to capital, an additional contribution and payment of a control premium as part of the acquisition with the contract, the contribution balance sheets, the external business valuations and bank statements. We consulted internal valuation specialists to obtain an understanding of the purchase price allocation for the acquired light control business performed by the Managing Board with the support of an external expert. In this context, we discussed the underlying assumptions on royalty rates, the development of sales markets, margins and the growth rates applied with the employees responsible for planning and reconciled them with available external market data. 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 assessed the presentation in the notes to the consolidated financial statements in terms of the requirements defined in IFRS 3, IFRS 10 and IFRS 12. Our audit procedures did not lead to any reservations relating to the accounting treatment and the presentation of the acquisition of the light control business from Continental Automotive GmbH in the consolidated financial statements of OSRAM Licht AG.

Reference to related disclosures: The Company's disclosures regarding the acquisition of the light control business from Continental Automotive GmbH are contained in chapter B.6.3 "Acquisitions, sales, disposal groups and discontinued operations", note 3 "Acquisitions, sales and discontinued operations" of the notes to the consolidated financial statements.

2) Impairment of goodwill and other intangible assets

Reasons why the matter was determined to be a key audit matter: Due to the acquisitions in fiscal year 2018, goodwill and other intangible assets constitute a significant part of assets of the OSRAM Licht Group for the first time. Judgment is used in management's impairment testing, especially in terms of the assessment as to whether there is objective evidence to indicate a lower recoverable amount and with regard to the demarcation of cash-generating units. The valuations also depend to a large extent on the assessment of future business development and the assumptions on cost of capital.

Auditor's response: During our audit, we examined the process 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 consulted internal valuation specialists to obtain an understanding of the methodology and reperformed the calculations in the underlying valuation models used to determine fair value. We discussed the underlying assumptions on the development of sales markets, 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. 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 balance sheet (assets)", note 13 "Goodwill and other intangible assets".

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, the management of OSRAM Licht AG announced further process improvements and structural adjustments in fiscal year 2018 and agreed on a reconciliation of group interests with the group works council on July 10, 2018, which provides for measures for voluntary retirement and 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 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 acceptance rates with past experience from previous restructuring activities and reconciled these on a sample basis with termination agreements which had already been signed. 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 chapters B.6.4 "Notes to the statement of income", note 4. "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 2018. 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 Declaration" of the combined management report and the Responsibility Statement in chapter C.1 of the Annual Report 2018,
- the Report of the Supervisory Board in chapter C.3 of the Annual Report 2018,
- Corporate Governance in chapter C.4 of the Annual Report 2018, and
- the non-financial Group report in chapter C.5 of the Annual Report 2018.

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 IFRS 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. They also have the responsibility for disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has 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 IFRS 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 20, 2018. We were engaged by the Supervisory Board on May 2, 2018. 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 19, 2018

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft



Keller
Wirtschaftsprüfer
[German Public Auditor]



Hinderer
Wirtschaftsprüfer
[German Public Auditor]


C . 3

Report of the Supervisory Board

Dear Shareholders,

For OSRAM, fiscal year 2018 was marked by significant economic challenges and a difficult market environment. Although the Company held its own in the market, it did not achieve its original targets. Through the structural measures, cost savings and even more rigorous strategic focus initiated in the fiscal year under review, OSRAM is responding to the changes in business and providing additional impetus for its successful 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 planned disposal of the luminaires business, the establishment of OSRAM CONTINENTAL GmbH, and other significant changes in the portfolio of investees. Any variances 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.

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 seven plenary meetings in the fiscal year under review, of which six were ordinary meetings and one was an extraordinary meeting. These meetings took place in November 2017, and in February, March, May, July, and September 2018. One resolution by the shareholder representatives was circulated to the members for adoption in writing. The Supervisory Board also has a number of committees. The work performed in the meetings of the Supervisory Board committees is addressed in the following section.

Attendance at the plenary meetings averaged 98% in the year under review. The committee meetings were fully attended, with the exception of one Executive Committee meeting, one Audit Committee meeting, and one meeting of the Strategy and Technology Committee, 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 ⁵⁾
Peter Bauer (Chairman)	15	15	100%
Michael Knuth (Deputy Chairman)	15	15	100%
Dr. Roland Busch (Deputy Chairman)	16	13	81%
Dr. Christine Bortenlänger	12	12	100%
Dr. Werner Brandt ¹⁾	4	4	100%
Prof. Dr. Lothar Frey ²⁾	8	8	100%
Dr. Margarete Haase ³⁾	7	7	100%
Frank H. Lakerveld	11	11	100%
Arunjai Mittal ⁴⁾	1	1	100%
Alexander Müller	12	12	100%
Ulrike Salb	12	12	100%
Irene Schulz	12	11	92%
Irene Weininger	11	11	100%
Thomas Wetzel	15	14	93%

1) Dr. Werner Brandt stepped down as a member of the Supervisory Board of OSRAM Licht AG with effect from the end of December 31, 2017.

2) Professor Dr. Lothar Frey died on June 24, 2018.

3) Dr. Margarete Haase was elected to the Supervisory Board of OSRAM Licht AG on February 20, 2018, by the Annual General Meeting of OSRAM Licht AG.

4) Arunjai Mittal was appointed as a member of the Supervisory Board of OSRAM Licht AG by way of an order of the Munich local court dated August 17, 2018.

5) 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 informed about 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 2018, the Supervisory Board reviewed the efficiency of its activities. Among the matters discussed were the timing and scope of information distributed in advance of its meetings, and the involvement of the members of the Supervisory Board in the deliberations of the Strategy and Technology Committee. 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 of the organization of the work of the Supervisory Board needed improvement.

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. Training courses were also organized for the Supervisory Board as a whole to ensure members still had the specialist knowledge that they require. Among the topics covered were trends in the lighting market and related markets, with a focus on the growing use of digital technologies in lighting applications for the automotive sector and for smart buildings. A comprehensive induction course was also held for the new Supervisory Board members to help them carry out their new responsibilities.

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.

At its meeting held on November 6, 2017, the Supervisory Board discussed the business performance in the fourth quarter, together with the preliminary figures for fiscal year 2017. It also decided on the variable remuneration components and the level of contributions to the pension plan for the Managing Board for fiscal year 2017.

At the Supervisory Board meeting held on November 28, 2017, to adopt the financial statements, the Managing Board reported on the position of the Company—especially the performance of OSRAM shares in fiscal year 2017—and the final figures for fiscal year 2017. 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, 2017. 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 2017 was also approved. In addition, the Supervisory Board adopted its proposed resolutions for the individual agenda items to be voted on by the 2018 Annual General Meeting. It also approved the Managing Board's proposal to distribute a dividend of €1.11 per dividend-bearing share. The management of the LS Business Unit reported on the position and future development of this business. The Supervisory Board then discussed the plans to form an OSRAM-controlled joint venture with Continental AG focused on automotive lighting (OSRAM CONTINENTAL GmbH).

At its meeting on February 20, 2018, the Supervisory Board addressed the results for the first quarter of the fiscal year and the current performance of the Company. The future development of LEDVANCE following its disposal and the implications for OSRAM were particularly prominent in the discussions. Following the election of the Supervisory Board at the 2018 Annual General Meeting, Mr. Bauer was elected as Chairman of the Supervisory Board and Mr. Knuth and Dr. Busch as his deputies, and the committees of the Supervisory Board were constituted.

At the extraordinary meeting held on March 14, 2018, the Supervisory Board approved the signing of a joint venture agreement with Continental AG (OSRAM CONTINENTAL GmbH).

The main items addressed by the Supervisory Board at its meeting on May 2, 2018, were the results for the second quarter and first half of fiscal year 2018, together with the business performance of the Group. Key topics of discussion included the profit warning issued on April 24, 2018, and the economic and operational trends that triggered this, as well as the steps being taken to improve the business performance. Moreover, the Supervisory Board again examined the corporate strategy and the corresponding focus of M&A activities.

At the meeting on July 31, 2018, the Managing Board reported on the position of the Company and the results for the third quarter. Among the items on the agenda was the second profit warning, issued on June 28, 2018, with a particular focus on why the targets would be missed, the communications with the capital market, and the expectations that are now being placed on the Company. In this context, the Supervisory Board also discussed the additional steps taken by the Managing Board and the status of the programs aimed at raising the efficiency of the Company. 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 for the first time for fiscal year 2018—externally audited by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, Germany, pursuant to sections 289b(3) of the *Handelsgesetzbuch* (HGB—German Commercial Code) and 315b(3) of the HGB. In addition, the Supervisory Board looked at, from a strategic perspective, the transformation of OSRAM into a photonics company, the planned disposal of the luminaires business, and the performance of the OS Business Unit.

At its annual strategy meeting on September 25, 2018, in Munich, the Supervisory Board held very detailed discussions on the Company's strategy. The topics that were addressed included the reorganization of the digital businesses within the new Digital (DI) Business Unit and the Company's ongoing transformation into a provider of photonics systems and solutions. The Supervisory Board also agreed to extend the terms of office of the two ordinary members of the Managing Board, Mr. Bank and Dr. Kampmann, by a further five years. In this context, it discussed changes to the remuneration system for the Managing Board and agreed to revisit the subject in 2019 if any new recommendations in the German Corporate Governance Code are announced. Furthermore, the Supervisory Board approved, together with the Managing Board, the declaration of conformity with the German Corporate Governance Code.

c.3.2 Work Performed by the Supervisory Board Committees

In the past fiscal year, the Supervisory Board continued to make use of five committees 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, preparations for decisions on remuneration, changes to the remuneration system for the Managing Board, and the extension of the terms of office of Mr. Bank and Dr. Kampmann as Managing Board members. Also on the agenda were the results of the Supervisory Board's efficiency review carried out in summer 2018 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 two adjustments made to the annual forecast during the fiscal year were a particular focus. Topics discussed included the LS and SP Business Units and OSRAM's major capital expenditure plans, most notably the establishment of the joint venture with Continental AG (OSRAM CONTINENTAL GmbH). The digitalization strategy and OSRAM's Lightelligence platform concept were also addressed, and preparations were made for the plenary meeting on corporate strategy.

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 except one. 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 2018 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 2018 (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 received a report on IT security and 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.

The Nomination Committee met twice in the past fiscal year, primarily to prepare the Supervisory Board's proposals to the Annual General Meeting, which elected the shareholder representatives on the Supervisory Board in February 2018. In this context, it discussed the suitability and independence of the candidates, taking due account of the statutory requirements. The Committee also drew up a requirements profile, taking account of the skills profile defined by the Supervisory Board for its members, and used the profile to find suitable candidates for the vacancies on the Supervisory Board. In addition, it addressed the proposal for the court's appointment of a successor to Professor Dr. Frey.

The Mediation Committee did not have to be convened in the past fiscal year.

c.3.3 Corporate Governance Code and Single-entity and Consolidated Financial Statements

On September 25, 2018, 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 26, 2017, 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 2017 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, Peter Bauer, Dr. Werner Brandt, Dr. Roland Busch, Professor Dr. Lothar Frey, 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](#).

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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, 2018, 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. Hinderer since fiscal year 2017. The Annual General Meeting on February 20, 2018, 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 good 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 3, 2018. 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, these were the 'measurement of investments in affiliated companies'. For the audit of the consolidated financial statements, these were the 'acquisition of the light control business of Continental Automotive GmbH', 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 to use the unappropriated profit of €107,501 thousand to distribute a dividend of €1.11 per dividend-bearing share and to carry forward the remaining unappropriated profit. 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 3, 2018, 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 2018 on the basis of a limited assurance engagement by Ernst & Young, whose report was submitted in good 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

Dr. Werner Brandt stepped down as a member of the Supervisory Board with effect from December 31, 2017. On February 20, 2018, the Annual General Meeting elected Peter Bauer, Dr. Christine Bortenlänger, Dr. Roland Busch, Dr. Margarete Haase, Professor Dr. Lothar Frey, and Frank Lakerveld as the members of the Supervisory Board representing the shareholders. On the same day, Dr. Haase was also elected as a member and the Chair of the Audit Committee, succeeding Dr. Brandt. The Supervisory Board would like to take this opportunity to express its gratitude to Dr. Brandt for his invaluable contribution and hard work on the supervisory boards of OSRAM Licht AG and OSRAM GmbH and as Chairman of the Audit Committee of OSRAM Licht AG.

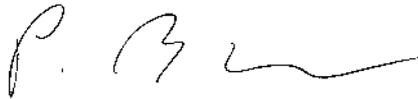
The Supervisory Board mourns the loss of Professor Dr. Lothar Frey, who had been a member of the Supervisory Board of OSRAM Licht AG representing the shareholders since August 27, 2013, and who died suddenly and unexpectedly on June 24, 2018. The Supervisory Board owes a deep debt of gratitude to Professor Dr. Frey for his dedication and hard work over many years on the supervisory boards of OSRAM Licht AG and OSRAM GmbH.

The Nomination Committee and the Supervisory Board decided, following a thorough selection process and after liaising closely, that Arunjai Mittal would succeed Professor Dr. Frey as a member of the Supervisory Board. As requested, Mr. Mittal was appointed as a member of the Supervisory Board by way of an order of the Munich local court (registration court) dated August 17, 2018. A recommendation will be made to the Annual General Meeting in February 2019 to confirm this appointment.

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 2018.

Munich, December 3, 2018

On behalf of the Supervisory Board

A handwritten signature in black ink, appearing to read '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.

The Managing Board and Supervisory Board of OSRAM Licht AG have discussed compliance with the requirements of the German Corporate Governance Code (the 'Code') at great length. On the basis of these deliberations, the annual declaration of conformity was issued on September 25, 2018. The declaration of conformity can be found in [C.4.3 Corporate Governance Declaration](#) and is published on our website [» www.osram-group.com](http://www.osram-group.com).

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OSRAM Licht AG voluntarily complies with the Code's non-binding suggestions, with the exception of the suggestion in section 2.3.2, according to which proxies should also be contactable during the Annual General Meeting. We do not believe that this suggestion 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.

c.4.1.1 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. Mr. Mittal was appointed to the Supervisory Board as a shareholder representative by way of an order of the competent registration court in Munich dated August 17, 2018. He succeeds Professor Dr. Lothar Frey, who died on June 24, 2018, as a member of the Supervisory Board. Mr. Mittal's appointment is set to be confirmed at the next Annual General Meeting. 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](http://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. These 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 15 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 37 | 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.

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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.

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.

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](http://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 exclude subscription 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, which has been produced for the first time for fiscal year 2018. 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 2018.

The Supervisory Board currently has five 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 other employee representative on the Supervisory Board who is elected by the Supervisory Board. It performs the duties of a nomination and remuneration committee, provided that these duties are not performed by the Nomination Committee or 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, the setting of Managing Board remuneration, and the full Supervisory Board's review of the remuneration system for the Managing Board. It also deals with Managing Board contracts. 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 questions of accounting and the Company's risk management, and monitors the effectiveness of the internal control system, the risk management system, and the Company's 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 **Nomination Committee** consists of the Chairman of the Supervisory Board, his deputy, who is not elected in accordance with the MitbestG, 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) 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 members of the Supervisory Board and its committees are disclosed in the Notes to the Consolidated Financial Statements [› Note 37 | 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 2018 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. For fiscal year 2018, it has also produced a separate non-financial Group report for the first time in accordance with the requirements of the CSR Directive Implementation Act. In addition, the Managing Board must ensure that all legal and 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](#).

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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 37 | 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.4.1.2 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 referring to them, 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.4.1.3 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 countermotions 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](http://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](http://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 2018 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 HGB, German accounting standards (GAS), and IFRS. The remuneration report is part of the combined management report.

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	4-year lock-up period		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 Remuneration (Incl. 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 nonmonetary 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 invested commitments to transfer OSRAM Licht AG shares (stock awards), which are subject to a lock-up period. This lock-up 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 lock-up 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 lock-up 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 date of the award and subtracting the discounted estimated dividends over the four-year lock-up period.

Upon expiration of the lock-up 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').

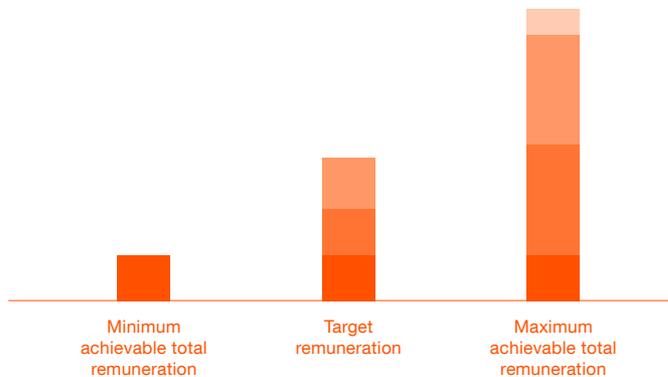
Maximum Amount of Total Remuneration

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 from share-based payment instruments whose lock-up period expired in the fiscal year concerned. 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 remuneration¹⁾

- Long-term share-based remuneration (stock awards), monetary value upon transfer of the shares after expiry of the lock-up 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 OSRAM Defined Contribution Benefit Plan (BOA). 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 to be held by the Chairman of the Managing Board routinely exceeds 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. As an exception, the Supervisory Board may decide at its professional discretion in special cases that stock awards already granted can be settled in cash on a pro rata basis (according to the portion of the lock-up 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 lock-up 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 lock-up 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 nonmonetary 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 2018

Setting of Targets

After assessing the achievement of the targets that it had set before the beginning of fiscal year 2018, 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 6, 2018, 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 2018, the Supervisory Board defined concrete targets at Group level for organic revenue growth, the EBITDA margin, and free cash flow. The switch from the EBITA margin used for fiscal year 2017 to the EBITDA margin used for fiscal year 2018 reflects the same change of key performance indicators used in the Company's external reporting for fiscal year 2018. 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 resolved to take particular account of progress on the Company's strategic realignment, the development of a digitalization strategy, and the successful implementation of the transformation projects in its decision to increase or decrease the variable remuneration paid by up to 20%.

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	7.2%	16.1%	€–69.0 million
Actual value for fiscal year 2018	1.9%	14.6%	€–102.4 million
Target achievement	12.5%	64.2%	74.3%
Overall target achievement	50.3%		

1) Adjusted.

Based on the results for fiscal year 2018, 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 2018 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 2018 was €3.11, representing target achievement of 77.6%.

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 2016 to 2018
Value for 100% target achievement	€3.45
Actual value for fiscal year 2018	€3.11
Target achievement	77.6%

In order to determine the number of stock awards to be granted, the value of the stock awards was calculated using the XETRA closing price for OSRAM Licht shares on the date of the award, less the present value of the dividends expected during the four-year lock-up period, to which the beneficiaries are not entitled, as set out in the employment contracts. This figure amounted to €30.42 (previous year: €64.47). In contrast to the procedure for measuring the stock awards, the cap on long-term share-based remuneration is not taken into account in this calculation.

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 2018 amounted in total to €5.2 million (previous year: €7.8 million). Of this total remuneration, €3.5 million (previous year: €5.5 million) was attributable to the cash component and €1.7 million (previous year: €2.3 million) to the share-based remuneration.

Remuneration of the Members of the Managing Board for Fiscal Year 2018 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 2018 in accordance with section 314 of the HGB and *German Accounting Standard (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, 2018					
	Dr. Olaf Berlien Chairman of the Managing Board		Ingo Bank Chief Financial Officer		Dr. Stefan Kampmann Chief Technology Officer	
	Fiscal 2017	Fiscal 2018	Fiscal 2017	Fiscal 2018	Fiscal 2017	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⁾	79,575	145,433	99,997	88,242	141,909	76,277
Total	979,575	1,045,433	699,997	688,242	741,909	676,277
Performance-based components						
Excluding long-term incentive effect, not share-based Short-term variable remuneration (bonus)	1,322,640	452,880	881,760	301,920	881,760	301,920
Including long-term incentive effect, share-based Long-term variable remuneration: OSRAM stock awards (lock-up period of 4 year) ^{2) 3)}	993,710	737,125	655,864	486,493	655,864	486,493
Total remuneration	3,295,925	2,235,438	2,237,621	1,476,654	2,279,533	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 2018 and 2017 in accordance with IFRS amounted to €1.4 million for fiscal year 2018 and €1.0 million for fiscal year 2017. The expense attributable to each member of the Managing Board in fiscal year 2018 was therefore as follows: Dr. Olaf Berlien €0.8 million (previous year: €0.6 million), Ingo Bank €0.3 million (previous year: €0.2 million), and Dr. Stefan Kampmann €0.3 million (previous year: €0.2 million).

3) As of the grant date of November 8, 2018, the fair value of one stock award based on the data in the table amounted to €28.91 (previous year: €60.27). This value was calculated using an option model, which applies a reduction taking into account the maximum variable share-based remuneration amount (cap) described above when the awarded OSRAM Licht shares are received; as a result, it differs from the value of €30.42 used to determine the number of stock awards granted. 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. Based on target achievement of 100%, the monetary values for the members of the Managing Board in office as of September 30, 2018, 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 2018 Pursuant to the German Corporate Governance Code

The total remuneration for the members of the Managing Board for fiscal year 2018 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 2018, 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 lock-up 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, 2018			
	Fiscal 2017	Fiscal 2018	Fiscal 2018 (Min.)	Fiscal 2018 (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⁾	79,575	145,433	145,433	145,433
Total	979,575	1,045,433	1,045,433	1,045,433
Performance-based components				
Excluding long-term incentive effect, not share-based Short-term variable remuneration (bonus)—target value	900,000	900,000	0	2,160,000
Including long-term incentive effect, share-based Long-term variable remuneration: OSRAM stock awards (lock-up period of 4 year) ^{2) 3)}	993,710	737,125	0	2,500,000
Total	2,873,285	2,682,558	1,045,433	5,705,433
Service cost	518,539	506,032	506,032	506,032
Total remuneration	3,391,824	3,188,590	1,551,465	6,211,465
Ingo Bank Chief Financial Officer				
Non-performance-based components				
Fixed remuneration (base remuneration)	600,000	600,000	600,000	600,000
Ancillary benefits ¹⁾	99,997	88,242	88,242	88,242
Total	699,997	688,242	688,242	688,242
Performance-based components				
Excluding long-term incentive effect, not share-based Short-term variable remuneration (bonus)—target value	600,000	600,000	0	1,440,000
Including long-term incentive effect, share-based Long-term variable remuneration: OSRAM stock awards (lock-up period of 4 year) ^{2) 3)}	655,864	486,493	0	1,650,000
Total	1,955,861	1,774,734	688,242	3,778,242
Service cost	340,874	337,693	337,693	337,693
Total remuneration	2,296,735	2,112,427	1,025,935	4,115,935
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⁾	141,909	76,277	76,277	76,277
Total	741,909	676,277	676,277	676,277
Performance-based components				
Excluding long-term incentive effect, not share-based Short-term variable remuneration (bonus)—target value	600,000	600,000	0	1,440,000
Including long-term incentive effect, share-based Long-term variable remuneration: OSRAM stock awards (lock-up period of 4 year) ^{2) 3)}	655,864	486,493	0	1,650,000
Total	1,997,773	1,762,770	676,277	3,766,277
Service cost	345,800	337,342	337,342	337,342
Total remuneration	2,343,573	2,100,112	1,013,619	4,103,619

- 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 2018 and 2017 in accordance with IFRS amounted to €1.4 million for fiscal year 2018 and €1.0 million for fiscal year 2017. The expense attributable to each member of the Managing Board in fiscal year 2018 was therefore as follows: Dr. Olaf Berlien €0.8 million (previous year: €0.6 million), Ingo Bank €0.3 million (previous year: €0.2 million), and Dr. Stefan Kampmann €0.3 million (previous year: €0.2 million).
- 3) As of the grant date of November 8, 2018, the fair value of one stock award based on the data in the table amounted to €28.91 (previous year: €60.27). This value was calculated using an option model, which applies a reduction taking into account the maximum variable share-based remuneration amount (cap) described above when the awarded OSRAM Licht shares are received; as a result, it differs from the value of €30.42 used to determine the number of stock awards granted. 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. Based on target achievement of 100%, the monetary values for the members of the Managing Board in office as of September 30, 2018, 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, 2018					
	Dr. Olaf Berlien Chairman of the Managing Board		Ingo Bank Chief Financial Officer		Dr. Stefan Kampmann Chief Technology Officer	
	Fiscal 2017	Fiscal 2018	Fiscal 2017	Fiscal 2018	Fiscal 2017	Fiscal 2018
Non-performance-based components						
Fixed remuneration (base remuneration)	900,000	900,000	600,000	600,000	600,000	600,000
Ancillary benefits ¹⁾	79,575	145,433	99,997	88,242	141,909	76,277
Total	979,575	1,045,433	699,997	688,242	741,909	676,277
Performance-based components						
Excluding long-term incentive effect, not share-based Short-term variable remuneration (bonus)	1,322,640	452,880	881,760	301,920	881,760	301,920
Including long-term incentive effect, share-based Long-term variable remuneration: OSRAM stock awards (lock-up period of 4 years)	0	0	0	0	0	0
Total	2,302,215	1,498,313	1,581,757	990,162	1,623,669	978,197
Service cost	518,539	506,032	340,874	337,693	345,800	337,342
Total remuneration	2,820,754	2,004,345	1,922,631	1,327,855	1,969,469	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 2018

The stock awards held by members of the Managing Board who were in office during fiscal year 2018 changed as follows in fiscal year 2018:

Stock Awards Held by Current Members of the Managing Board

Quantity

	Beginning of fiscal year 2018	Granted in fiscal year 2018 ¹⁾	Transferred in fiscal year 2018 after expiry of lock-up period	Lapsed in fiscal year 2018	End of fiscal year 2018 ²⁾
	Unvested stock awards	Stock awards	Stock awards	Stock awards	OSRAM stock awards
Managing Board members in office as of September 30, 2018					
Dr. Olaf Berlien	54,326	16,489	0	0	70,815
Ingo Bank ³⁾	7,789	10,883	0	0	18,672
Dr. Stefan Kampmann	4,703	10,883	0	0	15,586
Total	66,818	38,255	0	0	105,073

- 1) In fiscal year 2018, the fair value at the grant date of the stock awards granted in November 2017 was €60.27 per share awarded (previous year: €38.55).
- 2) Stock awards granted in November 2018 (fiscal year 2019) as remuneration for fiscal year 2018 are not included in these figures. Please see the above disclosures for further information.
- 3) This figure contains 6,221 stock awards that were granted to Ingo Bank in fiscal year 2017 in accordance with the provisions of his employment contract as compensation for the disadvantages that he incurred in connection with moving from his former employer to OSRAM; these stock awards are governed by the terms and conditions of the stock awards that were granted to the members of the Managing Board on November 10, 2016.

Pension Commitments

The amount of the contributions to the OSRAM Defined Contribution Benefit Plan (BOA) 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 2018, 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 6, 2018 (previous year: €1.2 million).

The following overview shows, among other things, the contributions (additions) made to the BOA for fiscal year 2018 for the Managing Board members who were in office during fiscal year 2018:

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 2018	Fiscal 2017	Fiscal 2018	Fiscal 2017
Managing Board members in office as of September 30, 2018				
Dr. Olaf Berlien	504,000	504,000	1,844,186	1,379,127
Ingo Bank	336,000	336,000	686,615	365,599
Dr. Stefan Kampmann	336,000	336,000	740,201	420,974

1) As of September 30, 2018/2017.

As of September 30, 2018, the present value of all pension commitments for former members of the Managing Board of OSRAM Licht AG and their dependents totaled €4.9 million (previous year: €5.0 million).

Other Information

In fiscal year 2018, 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 2018 is as follows:

Remuneration of Members of the Supervisory Board

in €

	Fiscal year 2018				Fiscal year 2017			
	Base remuneration	Additional remuneration for activities on committees ²⁾	Attendance fees	Total remuneration	Base remuneration	Additional remuneration for activities on committees	Attendance fees	Total remuneration
Supervisory Board members of OSRAM Licht AG in office as of September 30, 2018¹⁾								
Peter Bauer	120,000	22,500	7,500	150,000	120,000	22,500	7,500	150,000
Michael Knuth ³⁾	100,000	15,000	7,500	122,500	100,000	15,000	8,000	123,000
Dr. Christine Bortenlänger	65,000	15,000	6,000	86,000	65,000	15,000	5,500	85,500
Dr. Roland Busch	95,238	14,286	6,500	116,024	94,444	14,167	7,500	116,111
Dr. Margarete Haase ⁴⁾	43,333	33,333	3,500	80,167				
Frank H. Lakerveld	65,000	10,000	5,500	80,500	65,000	10,000	4,500	79,500
Arunjai Mittal ⁵⁾	10,833	–	500	11,333				
Alexander Müller ³⁾	65,000	15,000	6,000	86,000	37,917	7,500	2,500	47,917
Ulrike Salb	65,000	15,000	6,000	86,000	65,000	7,500	4,000	76,500
Irene Schulz ³⁾	61,905	14,286	5,500	81,690	65,000	15,000	5,500	85,500
Irene Weininger ³⁾	65,000	10,000	5,500	80,500	32,500	5,000	2,000	39,500
Thomas Wetzel ³⁾	65,000	15,000	7,000	87,000	65,000	15,000	6,000	86,000
Former Supervisory Board members of OSRAM Licht AG								
Dr. Werner Brandt ⁶⁾	16,250	12,500	2,000	30,750	65,000	50,000	5,500	120,500
Prof. Dr. Lothar Frey ⁷⁾	48,750	7,500	4,000	60,250	65,000	10,000	4,500	79,500
Total	886,309	199,405	73,000	1,158,714	839,861	186,667	63,000	1,089,528

- 1) Peter Bauer, Michael Knuth, Dr. Christine Bortenlänger, Dr. Werner Brandt (until December 31, 2017), Dr. Roland Busch, Professor Dr. Lothar Frey (until June 24, 2018), Dr. Margarete Haase (from February 20, 2018), Frank H. Lakerveld, Arunjai Mittal (from August 31, 2018), Alexander Müller, Irene Schulz, and Thomas Wetzel were also members of the Supervisory Board of OSRAM GmbH in fiscal year 2018. 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. Since April 1, 2018, the members of the Supervisory Board have been 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, Dr. Werner Brandt €1,250, Professor Dr. Lothar Frey €3,750, Dr. Margarete Haase €3,333, Arunjai Mittal €833, Alexander Müller €2,083, Irene Schulz €4,667, 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 2017 and 2018: Peter Bauer as Chairman of the Supervisory Board of OSRAM Licht AG, of the Executive Committee, and of the Strategy and Technology Committee; Dr. Christine Bortenlänger as a member of the Audit Committee; Dr. Werner Brandt as Chairman of the Audit Committee (until December 31, 2017); Dr. Roland Busch as Deputy Chairman of the Supervisory Board and a member of the Executive Committee and the Audit Committee; Dr. Margarete Haase as Chair of the Audit Committee (from February 20, 2018); Professor Dr. Lothar Frey as a member of the Strategy and Technology Committee (until June 24, 2018); Michael Knuth as Deputy Chairman of the Supervisory Board and a member of the Executive Committee, the Audit Committee (until April 3, 2017), and the Strategy and Technology Committee (from April 3, 2017); Frank H. Lakerveld as a member of the Strategy and Technology Committee; Alexander Müller as a member of the Audit Committee (from April 3, 2017); Ulrike Salb as a member of the Audit Committee (from April 3, 2017); Irene Schulz as a member of the Audit Committee; Irene Weininger as a member of the Strategy and Technology Committee (from April 3, 2017); Thomas Wetzel as a member of the Executive Committee (from April 3, 2017) 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.
- 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) Dr. Margarete Haase was elected to the Supervisory Board on February 20, 2018, by the Company's Annual General Meeting. On the same day, she was also elected as a member and the Chair of the Audit Committee.
- 5) Arunjai Mittal was appointed as a member of the Supervisory Board by way of an order of the Munich local court dated August 17, 2018.
- 6) Dr. Werner Brandt stepped down as a member of the Supervisory Board of OSRAM Licht AG with effect from the end of December 31, 2017.
- 7) Professor Dr. Lothar Frey died on June 24, 2018.

Members of the Supervisory Board did not receive any loans or advances from the Company in fiscal year 2018.

c.4.3 Corporate Governance Declaration

The corporate governance declaration for fiscal year 2018 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 25, 2018, 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 26, 2017, was issued, OSRAM Licht AG has complied with all the recommendations of the Code in the version dated February 7, 2017.

Munich, September 25, 2018

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 single exception:

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.

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.

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 can be downloaded at [» http://www.osram-group.de/en/sustainability/economic/compliance](http://www.osram-group.de/en/sustainability/economic/compliance).

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. 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. OSRAM's compliance management system 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.

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.

OSRAM's compliance management system is designed to prevent possible breaches of the applicable anticorruption and antitrust laws. To this end, a corporate policy on compliance 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 is based on a 'prevent—detect—respond' approach.

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.

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 'Tell OSRAM' whistleblowing system, 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 practicality 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, Mediation Committee, and Strategy and Technology Committee) can be found in [› Note 37 | 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, 2018, the proportion of women at OSRAM Licht AG was 26% in the first level of management and 42% 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, 2018, the proportion of women across the Group in the first and second levels of management in Germany stood at 13% and 16% respectively.

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, 2018, 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.

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 2018, 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—CSR Directive Implementation Act) and the GRI.

The non-financial Group report covers key topics that are required to understand the development 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 was used to help define the topics. Internal experts from all business units and relevant corporate functions evaluated the possible topics with regard to their business relevance and potential impacts, particularly when these impacts would be negative. The results were then consolidated in a workshop, validated, and approved by the Managing Board. The following key topics were identified: greenhouse gases and climate change, energy efficiency, raw materials and substances, human rights, fair working conditions, occupational health and safety, employee satisfaction and employer attractiveness, people development, product safety, privacy and data security, customer relations, and combating corruption and bribery.

Unless otherwise indicated, all figures refer to the continuing operations of the OSRAM Group and encompass all consolidated companies¹⁾.

In March 2018, OSRAM GmbH and Continental Automotive GmbH agreed to establish OSRAM CONTINENTAL GmbH to pool their activities in the area of automotive lighting. This took effect on July 1, 2018. The contractual agreements with Continental give OSRAM control over OSRAM CONTINENTAL GmbH. The company and its subsidiaries have been included in the consolidated financial statements of OSRAM Licht AG since July 1, 2018. Where the management approaches relevant to non-financial reporting do not yet exist at the OSRAM CONTINENTAL companies, the aim is to establish or implement them during fiscal year 2019.

The non-financial report for the OSRAM Licht Group for fiscal year 2018 is subject to review by the Supervisory Board of OSRAM Licht AG. It has also been audited 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).

1) Associates are not included.

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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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. When examining the business relevance of the possible key topics as part of our materiality analysis, we also evaluated their risk exposure—in terms of business activities, products, services, and business relationships—on a scale of one (very low) to seven (very high). A comparison was also made with topics identified by OSRAM's risk management system, and 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 manufacturing company, we are aware of our responsibility toward nature, the environment, and climate protection, and are committed to environmental management practices that conserve resources and to developing progressive, energy-efficient products.

Overall responsibility for environmental protection and occupational health and safety lies with the Chief Technology Officer (CTO), who delegates tasks and managerial authority to the head of the corporate Environment, Health, and Safety department (EHS). At regular intervals, the EHS department reports directly to the Managing Board on significant developments.

The EHS department 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, and 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.

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 emissions²⁾.

c.5.4.1 Energy Efficiency

Relevance

OSRAM's production activities use both primary and secondary energy. All OSRAM products also draw on energy resources when they are being used. The energy efficiency of our products is a key criterion in our customers' purchasing decision and satisfaction.

2) The data covers all relevant production facilities (including Regensburg-West, Germany), the two head office buildings in Munich (Germany), and the R&D locations in Augsburg (Germany), Shenzhen (China), and Beverly and Wilmington (both in the U.S.A.). OSRAM CONTINENTAL's manufacturing facilities in Kunshan (China), Hendersonville (U.S.A.), and Treviso (Italy) have been included since the fourth quarter. The location in Panyu (China), which was closed in the first quarter, the luminaire production site in St. Quentin (France), which is disregarded due to its size, and the companies acquired in the Philippines and the U.S.A. during the fiscal year are all excluded from the data. The OSRAM CONTINENTAL R&D locations in Guadalajara (Mexico), Iasi (Romania), and Vienna (Austria) are also excluded.

Guidelines, Responsibilities & Structures, Processes

To operate our production facilities, we utilize an energy mix that is both economical and environmentally friendly³⁾. Group headquarters as well as all production and development sites that consume more than 1,400 MWh a year are pursuing energy efficiency programs in order to reduce their impact on the environment and to 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.

Consumption targets are set annually at global, regional, and site level and are aggregated into a specific global target for energy consumption using the budgeted figures for production and revenue. At Group level, progress toward the targets is monitored and reviewed as part of the quarterly reporting cycle and the energy efficiency reviews conducted with the operational heads of the business units.

Objectives

The target for energy consumption per unit of production in fiscal year 2018 was higher than in the previous fiscal year (see the table below). The increase compared with the previous year's target and level of target achievement as well as the increase in absolute energy consumption are attributable to the expansion of our environmental reporting system and the ramp-up of our new LED factory in Kulim, Malaysia. Expansion of the sites in Regensburg, Germany, and Wuxi, China, is another factor. This trend is expected to continue in the years ahead. Production at these locations requires controlled climatic conditions, but we are also seeing a clear shift toward the use of secondary energy due to the manufacturing technology that is needed. Whereas the consumption of energy from primary sources, especially natural gas, is holding more or less constant, we are increasingly drawing electricity from local grids.

Action Taken, Results

Energy savings were achieved in the reporting period by means of a large number of individual projects at the different sites. In Penang, Malaysia, for example, older air-cooled compressors were replaced by more efficient water-cooled models. An older chiller was replaced in Herbrechtingen, Germany, as well. In addition, modern LED-based lighting systems were installed in office and production areas in Penang and at Clay Paky, Italy.

The global scaled target for the reporting period was missed by 2%. This was mainly because production capacities were utilized to a lesser extent than planned, which had a negative impact on energy efficiency.

Key Performance Indicators

Energy Efficiency

	Fiscal year	
	2018	2017
Absolute energy consumption in MWh (sum of primary and secondary energy) ¹⁾	739,300	658,600
Specific energy consumption target in MWh per €1 million revenue	176	167
Specific energy consumption in MWh per €1 million revenue	180	160

1) Incl. 300 MWh self-generated electricity.

3) 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.

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 standards, available to our customers and the public online at [» www.osram.com/lca](http://www.osram.com/lca). The LCAs cover the majority of our 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.

c.5.4.2 Greenhouse Gases and Climate Change

Relevance

The direct and indirect emissions that result from our use of energy contribute to climate change and mainly take the form of CO₂. Every year, in order to mitigate this impact, OSRAM sets itself targets for reducing its Scope 1- and Scope 2-emissions.

Greenhouse gas emissions also occur in our upstream supply chain and when our products are being used.

Objectives

In absolute terms, CO₂ emissions (Scope 1 and 2, market-based method) rose in fiscal year 2018. Because of the changes that our industry and also our Group are undergoing, OSRAM does not look at absolute emissions but instead at the amount of emissions relative to the revenue generated. Although we fell just short of the relative energy target, the CO₂ target was achieved, because the emission intensity of local power grids was better than had been assumed when the targets were set.

Action Taken and Results

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.

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Key Performance Indicators

Greenhouse gases and climate change

	Fiscal year	
	2018	2017
CO ₂ emissions in metric tons (sum of greenhouse gas emissions (GHG) Scope 1- and 2-emissions, market-based)	271,400	240,000
Target specific CO ₂ emissions in metric tons per €1 million revenue	67	64
Specific CO ₂ emissions in metric tons per €1 million revenue	66	58

c.5.4.3 Raw Materials and Substances

Relevance

OSRAM focuses on monitoring and reducing the hazardous, critical, and valuable substances used in parts of the portfolio. However, it is also important generally for OSRAM that it uses materials in a way that conserves resources. This has a positive impact on the environment, saves costs, and makes our products more acceptable to customers.

Guidelines, Responsibilities & Structures, Processes

With regard to the substances contained in OSRAM products, we work on the basis that it should be possible to market our products anywhere in the world. For this reason, the world's strictest regulations apply as a global standard. We deviate from this approach in local markets in only a handful of cases but always still comply with local law. We are also able to declare critical substances contained in our products. The status of the availability of the necessary information and declarations can be included in the quarterly reporting and the management review.

In line with the OSRAM EHS policy and our Group guideline on product-related environmental protection, we are committed to responsible environmental management and the efficient use of resources and energy, and to the development of eco-friendly processes and advanced products. The relevant rules and guidelines are issued by the corporate EHS department; 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 in both production and use. At the product development stage, mechanisms are built into the processes to improve products continuously and meet legal requirements and customer specifications. The EHS department advises the units on legal requirements and monitors compliance.

Our suppliers are required to promptly provide the necessary declarations and information for the qualification of new parts as well as for changes in relevant laws. 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 achieve legal compliance of our electrical and electronic devices. 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. All suppliers are required to comply and keep up to date with the regulations that are relevant to our markets.

Mechanisms are built into the development processes to comply with legal regulations on the use of substances in products and with customer and market requirements that go beyond the legal minimum [C.5.7 Respect for Human Rights—Conflict Minerals](#).

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Action Taken and Results

Further efforts were made during the reporting period to increase the quantity and quality of data. We were thus able to significantly improve the completeness of the information, data, and declarations provided electronically by our suppliers. This will enable us to assess risks and product conformity more quickly in the future and react promptly and appropriately.

c.5.5 Social Aspects

As a global brand manufacturer with a long tradition, OSRAM sees itself as a part of society and accepts a level of responsibility that extends beyond the Company's own operations. We always want to offer our customers quality, including when it comes to product safety and data security.

c.5.5.1 Product Safety

Relevance

The lighting market is undergoing a constant technological shift and is not globally homogenous. 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 integrate them into product development at an early stage.

Guidelines, Responsibilities & Structures, Processes

We are committed to complying with all legal requirements, standards, and norms relating to products and their safety, including labelling, that apply in the individual regions and countries in which we operate, and to implementing changes in good time. The objective is to avoid product safety violations.

At Managing Board level, responsibility for product safety and quality lies with the Chief Technology Officer (CTO). The CTO appoints the head of the corporate Quality Management department to act as a Group-wide control function who is responsible for setting up and maintaining the quality management system and has the authority to issue policies and instructions in this context. Operational responsibility for implementing statutory and internal rules regarding product safety and quality lies with the individual CEOs of the business units.

The corporate Quality Management department draws up rules that are applicable to all units. Our core practices are described in the quality manual and quality guideline. Quality-related guidelines and processes cover, for example, product safety, product development, and the handling of defective products as well as the corresponding escalation steps.

Methods designed to safeguard quality are rigorously applied during the product design stage to meet the development milestones. We follow standardized checklists when approving products and take remedial action if relevant risks are identified. In addition, we regularly check our products regarding their impact on health and safety.

Customers can return defective products at any time and will find the relevant information online. Employees can also report potential incidents. 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 within the Company for the 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. Relevant internal and customer-oriented measures have been specified and may result in information being provided to customers or even a product recall.

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 in line with its continuous improvement approach.

Regular reports are submitted to the Chief Technology Officer (CTO), who is informed immediately of any incident that has been classified as a critical quality issue by the responsible business unit.

Objectives

We achieved our goal of implementing new legal requirements, standards, and norms on schedule in fiscal year 2018.

Action Taken and Results

In the reporting period, we had our processes and management systems recertified to ISO 9001. We also succeeded in transforming the certification of all locations supplying automotive customers from ISO TS to IATF 16949. Individual measures were also taken at business unit level.

Key Performance Indicators

During fiscal year 2018, the Quality department received no reports of potential violations concerning the impact of our products on the health or safety of our customers.

c.5.5.2 Privacy and Data Security

Relevance

The ongoing digitalization of business processes also entails risks for the protection of privacy and security of data of our employees, customers, and business partners. To mitigate these risks, we take extensive preventive measures designed to comply with legal regulations regarding data privacy.

Guidelines, Responsibilities & Structures, Processes

OSRAM has embedded data privacy in its business principles and internal policies. It achieved its goal by introducing a data privacy management system (DPMS) on schedule in the reporting period. Our actions in this regard are guided by the requirements of national and international data privacy laws.

Data protection encompasses the privacy of personal data pertaining to employees and customers, but also to business partners and their customers. Our aim is to protect the privacy of these individuals in all our products and processes. Numerous technical and organizational measures are in place to help us achieve this objective.

In addition to the internal data privacy officers appointed in the German Group companies, who monitor compliance with the data privacy principles, the Group Privacy department analyzes the data privacy requirements and initiates appropriate measures for the Group and its subsidiaries. In each local entity a Data Privacy Coordinator (DPC) is responsible for implementing these measures and adapting them to local requirements.

OSRAM has IT tools at its disposal for dealing with data privacy risks. For example, we maintain a record of all processes and procedures involved in the processing of data ('Processing Register'), which enables us to carry out, across the Group, the data privacy impact assessment required for certain procedures and to document it in a legally compliant manner.

The Chief Compliance Officer and the head of Group Data Privacy report regularly to the Managing Board on current developments. Data privacy is also routinely covered by compliance reporting to the Audit Committee of the Supervisory Board.

We require our employees to treat personal data and information confidentially. The specific rules are described in our data privacy guideline. We also provide a web-based training on data privacy to all employees who have access to an email account. By the end of fiscal year 2018, all such employees in the EMEA region (except temporary student employees) had been invited to complete this training. Invitations to staff in the Americas and APAC regions will follow in due course. All our business partners that handle sensitive data are required to train their employees accordingly. This applies in particular to service providers and suppliers. Should we become aware that a business partner is not complying with its data privacy obligations, we will take the necessary remedial action.

Despite the high technical and organizational security standards that we have in place, data breaches cannot be completely ruled out. Our Company is required by law to promptly notify the relevant regulatory authorities if it is believed that a personal data breach has occurred. In order to meet this requirement, a channel of reporting suspected data breaches was added to the existing whistleblowing system 'Tell OSRAM' during the fiscal year.

Objectives

Our objective is to avoid breaches of data privacy.

Action Taken and Results

In the period under review, the Group guideline on data privacy was drawn up and published, the processing register was updated and automated, and a Group-wide training concept was developed. Privacy policies and consent forms for employees, customers, and shareholders were also updated. At the same time, data privacy requirements were integrated into the product development processes.

Key Performance Indicators

During the fiscal year, we did not receive any complaints from customers or other inquiries related to data privacy from competent supervisory authorities.

c.5.5.2 Customer Relationships

Relevance

As technology shifts toward LED-based lighting systems, so customer requirements are also changing, and this is accompanied by a change from a pure product-related to a more solutions- and project-oriented business. Therefore, an efficient, target group-oriented management of our customer relations, which utilizes the various opportunities of digitalization, is of utmost importance for us.

Guidelines, Responsibilities & Structures, Processes

The OSRAM business units are the interface to our customers, and as such have operational responsibility for sales. They are specifically geared to the requirements of their customers and markets. To meet these requirements as effectively as possible, each business unit has its own individual sales structures and types of business.

Action Taken and Results

In the second half of the fiscal year, we established the new Global Sales Excellence function, which reports directly to the Managing Board. The new function is intended to help further increase sales efficiency and strengthen customer loyalty and to support and coordinate projects across all business units. The structures and processes have been designed not only to improve customer focus and customer satisfaction but also to identify and reap synergies between the business units. For example, we analyzed the customer structure and evaluated the degree of sales automation so that we can provide more specific support for each customer group.

A centralized e-business project was also launched during the reporting period. This is helping to open up further sales channels and to optimize and expand existing customer interfaces.

In addition, OSRAM conducts a worldwide survey of selected representative customers approximately every two years. We measure the same key performance indicators for all business units. Previously, the results were summarized as a Net Promoter Score (NPS). Since fiscal year 2017, they have been aggregated in a Customer Loyalty Index (CLI). Both key figures express the degree of customer loyalty to OSRAM. The customer satisfaction surveys are submitted to the OSRAM Managing Board for approval, which is informed on a case-by-case basis of the results and the measures taken by the business units. 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.

Key Performance Indicators

The NPS can be between -100% and +100%. In the last survey in 2017, the NPS was again at the high level of 35% (previous survey: 35%). This result corresponds to the target, which was also 35%. In the new CLI ratio, OSRAM scored a very high 82% out of a possible 100%, which is well above the average of its competitors of 67%⁴⁾.

c.5.6 Employee Aspects

Human Resources (HR) is responsible for the key topics covered by treatment of employees, with the exception of occupational health and safety > [C.5.6.1 Occupational Health and Safety](#). HR is organized globally at OSRAM. Overall responsibility for HR matters and HR organization lies with the Chief Human Resources Officer (CHRO), who reports to the Chairman of the Managing Board (CEO). 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, talent acquisition, diversity, people development, training, remuneration, and benefits.

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c.5.6.1 Occupational Health and Safety

Relevance

OSRAM endeavors to offer 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, Processes

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](#). The occupational health and safety guideline applies across the Company, and appropriate monitoring processes and training have been implemented for its compliance.

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The locations in Wuxi, Kunshan, and Foshan, all China, Chennai, India, Penang and Kulim, both Malaysia, Bergamo, Italy, and the headquarters in Munich, Germany, have been externally certified according to OHSAS 18001. Our internal guidelines require the other production facilities to also maintain a management system for occupational health and safety in accordance with the OHSAS 18001 standard. Compliance is monitored by internal audits. Larger development and sales locations operate a reduced management system and contribute data to the health and safety indicators⁵⁾. The plant in Chennai, India, is additionally certified to SA8000, an internationally recognized standard for social accountability.

4) In each customer interview conducted as part of the survey, a value for OSRAM's best competitor is also recorded. Once the survey has been completed, the results of the individual 'best competitors per customer' are aggregated to a competitor value that is then compared with the OSRAM value (CLI).

5) In addition to the locations that are already covered by the environmental reporting, these include the sites in Shanghai (China), Traxon (Hong Kong), Alphaville (Brazil), Markham (Canada), Tultitlan (Mexico), Sunnyside (U.S.A.), Gurgaon (India), Yokohama (Japan), GSS Penang (Malaysia), Taipei (Taiwan), Seoul (Korea), Paderborn/Cologne (Germany), Molsheim (France), Langley (United Kingdom), Milan (Italy), and Poznan/Warsaw (Poland). The location in Panyu (China), which was closed in the first quarter, the luminaire production site in St. Quentin (France), which is disregarded due to its size, and the companies acquired in the Philippines and the U.S.A. during the fiscal year are all excluded from the data. The OSRAM CONTINENTAL R&D locations in Guadalajara (Mexico), Iasi (Romania), and Vienna (Austria) are also excluded.

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 at all times, wherever they are.

Objectives

The Lost Time Injury Frequency Rate (LTIFR) and Severity Rate (SR) are the internationally recognized key metrics for our occupational health and safety management system. We attained our global target for LTIFR (see table below). The rate achieved was below that of the previous year. This is consistent with the absolute number of accidents at work resulting in lost days. We were unable to maintain the severity rate at the previous year’s level, however, and missed our target. The rate also increased compared with the prior year.

Action Taken and Results

In the fiscal year under review, we carried out a special project with the European locations, as the situation here was identified as being more critical than in the other regions. The corporate department helped to analyze the challenges in occupational health and safety at each specific location, and local programs were developed on this basis. These included special work safety days and video demonstrations aimed at raising safety awareness, as well as optimization of personal safety equipment. Although we made progress in terms of accident frequency, in all regions we did have to register some accidents resulting in long-term absences. Since we cannot directly influence medically justified absences, we will continue to work on reducing the overall accident rate.

Key Performance Indicators

Health and safety¹⁾

	Fiscal year		Target 2018
	2018	2017	
Global rate of occupational accidents with days of absence ²⁾ (LTIFR ³⁾)	0.27	0.34	0.34
Occupational accidents severity rate global ²⁾ (SR ⁴⁾)	9.62	5.31	4.45
Occupational accidents with lost days	76	87	

- 1) Without commuting accidents.
- 2) Scaled to 200,000 working hours.
- 3) Lost Time Injury Frequency Rate.
- 4) Severity Rate.

c.5.6.2 Fair Working Conditions

Relevance

We aim to offer our employees a working environment in which each person is respected as an individual and that is conducive to good and fair working relationships. This includes the right to freedom of association and fair, non-discriminatory pay. When restructuring, we endeavor to strike an appropriate balance between the interests of employees and employer.

Guidelines, Responsibilities & Structures, Processes

We are committed to giving our employees the right to freedom of association and the possibility of concluding collective agreements. These principles are set out in our Business Conduct Guidelines.

Collective agreements are in place at our largest European companies in terms of number of employees⁶⁾. 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.

Around the world, we make use of international frameworks such as those provided by the International Labour Organization (ILO) and the UN Global Compact. Our commitment to these frameworks and our understanding of the values they uphold are set out in our Business Conduct Guidelines, which every new employee must sign at the start of a contract: We respect the personal dignity, privacy, and personal rights of each individual and do not tolerate any discrimination. These principles apply both to internal working relationships and to conduct toward external partners such as suppliers. In Germany, our Company-wide agreement on partnership in the workplace expressly states that all employees should be valued and treated with respect, regardless of their gender, ethnic origin, religion or beliefs, physical limitations, or sexual identity.

Violations of the values set out in the Business Conduct Guidelines can be reported to the HR organization, the whistleblowing system 'Tell OSRAM' or, where available, the employee representatives. Reported incidents are dealt with on a case-by-case basis. The Compliance department is immediately called in if there is a suspicion of activity that may constitute a crime and/or may incur a fine; other matters are initially dealt with locally and then escalated if necessary until a solution is found.

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, for example in relation to pay. In Germany, the collectively agreed remuneration system forms the basis for equal pay among workers covered by this scheme.

Restructuring is an essential step in OSRAM's transformation into a high-tech company. Where job cuts are unavoidable, OSRAM makes every effort to minimize the social impact and to consult its employees at the earliest stage possible.

Action Taken and Results

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 primary goal is to preserve these locations and to focus the Company on high-tech products and solutions. Over the coming years, OSRAM will invest a sum in the triple-digit millions of euros in research and development and in the further development of the plants in Berlin, Herbrechtingen, Regensburg, and Schwabmünchen, all Germany. The transformation will also mean that some job roles will be eliminated. A redundancy scheme and a social compensation plan were agreed for these. The agreed elimination of around 600 jobs by 2020 will be achieved by means of pre-retirement part-time employment, voluntary redundancies, and a retraining program. The latter is intended to equip employees affected by the job losses with skills that will allow them to fill new roles within the Company.

During the reporting period, an initiative was launched to develop OSRAM's new cultural values and leadership principles and roll-out was commenced. This initiative encompasses OSRAM's cultural values and leadership principles and focuses on how employees should work together and how leadership at OSRAM should be structured. It also encourages employees to treat each other with respect.

6) These are Germany, Italy, Slovakia, and the Czech Republic; Bulgaria is excluded.

In the reporting period, we also created a mechanism that in the future will allow violations of fair working conditions to be reported via the whistleblowing system 'Tell OSRAM'. The mechanism's integration into the existing system is scheduled to be completed by the end of calendar year 2018

› [C.5.8 Combating Corruption and Bribery.](#)

c.5.6.3 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 into a high-tech company.

Guidelines, Responsibilities & Structures, 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 in an employer branding guide in order to maintain uniform standards across the Group.

Employee satisfaction in the form of engagement is usually measured every two years by means of a global survey conducted by Willis Towers Watson on behalf of HR. To obtain further feedback from employees, we use dialog events such as town hall meetings, 'Meet the CEO/CTO/CFO' sessions, and webcasts with the Managing Board.

Objectives, Action Taken, Results und Key Performance Indicators

The results of the most recent employee survey showed an improvement: Engagement⁷⁾ has improved from 79% since the last survey in 2014 to 83% in 2017. Retention was also examined⁸⁾: 66% of OSRAM employees felt that they were committed to the Company in 2014; the most recent survey, for 2017, showed that 73% of employees now feel this way.

The fiscal year was used to implement measures and to continuously monitor the progress of implementation. These are not global measures, but individual measures at divisional, departmental, and team level, or for individual locations.

We achieved our goal for the fiscal year of being awarded Top Employer Germany certification.

c.5.6.4 People Development

Relevance

We firmly believe that nurturing and developing our employees is key to improving their long-term engagement and therefore also driving the success of our Company. This is why we offer all employees opportunities for personal and professional development.

7) By engagement we mean not only the willingness of employees to dedicate themselves to the Company's mission, but also whether they think that their working conditions and working environment are productive and inspiring enough for them to be able to carry out their tasks successfully. The results are not completely comparable as two questions were dropped from the 2017 survey.

8) Retention is a measure of how likely an employee is to recommend OSRAM as an employer and to what extent the employee is considering leaving the Company. The results are not completely comparable as the 2017 survey included an additional question.

Guidelines, Responsibilities & Structures, Processes

We provide both employees and managers with development opportunities such as general further training courses (for all employees), schemes for high-potential individuals, and defined career paths with dedicated development programs⁹. The many courses and activities offered as part of the general training program are available across all locations and can be tailored to individual needs. The program is reviewed once a year and modified if necessary. Employees are nominated for our high-potential programs and for the career paths and accompanying development programs via a performance management process. The high-potential programs are used to develop our most talented individuals at global and local level. The emphasis is on specific development plans and regular dialog with experienced mentors. A standardized global approach was developed in fiscal year 2018 and will be rolled out in the next fiscal year.

We offer our employees a range of development opportunities under the Leadership, Key Expert, and Project Management global career paths. The employees who follow these paths are thus able to focus on tasks that correspond to their individual skills profile. Under the Leadership scheme, OSRAM offers a career path for managers. Key Experts focus on core technology fields and functions that are based on the technology roadmap. The global Project Management career path provides employees with a development opportunity that is similar to the Leadership career.

The Managing Board is regularly informed about the programs and progress of our talent management system and also meets with high-potential individuals from around the world several times a year.

Objectives

OSRAM wants to focus even more on the strengths and potential of its employees, which is why we set ourselves the goal for fiscal year 2018 of establishing a new process for performance management and potential development.

Action Taken and Results

In line with the objectives, the new development process mentioned above—called GROW—was launched on schedule at the start of fiscal year 2019. It places greater emphasis on dialog between managers and employees and on greater freedom and personal responsibility.

During the reporting period, the recruitment process was changed in order that high-potential individuals from around the world are considered both in succession planning and in the filling of vacant positions. The changes will be implemented in the next fiscal year.

We also successfully launched our global trainee program LightUp! during fiscal year 2018, which will provide training to new recruits and make us even more appealing to graduates.

c.5.7 Respect for Human Rights

Relevance

In terms of human rights, it is important to OSRAM that it fulfills its duty of care toward its own employees and toward suppliers. 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.

⁹ Participants in the development programs who transferred to OSRAM CONTINENTAL on July 1, 2018, will complete the program that has already been started.

Guidelines, Responsibilities & Structures, Processes

We are committed to the principles of the United Nations (UN) Human Rights Charter and, as a member of the UN Global Compact, we support its principles.

Human rights with regard to our employees are embedded internally through our Business Conduct Guidelines and with regard to our suppliers through our Code of Conduct > [C.5.6.2 Fair Working Conditions](#). HR coordinates our duty of care with regard to human rights.

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We use various instruments and processes to help our suppliers implement our Code of Conduct 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. In the period under review, one of the main critical issues of non-compliance was that maximum working hours were being exceeded, particularly in Asia. Several audits also identified defective protective equipment. An action plan agreed with the suppliers is being used to rectify the identified defects.

Our portfolio of products also requires the use of materials that are classified as conflict minerals due to their potential origin. In order to fulfill our responsibility in terms of human rights here, we have put due diligence processes for procurement in place. 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 documents are available to our suppliers free of charge 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.

Objectives

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. 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. To date, we have not yet fully succeeded in establishing, together with our suppliers, the conflict-free status of all products within the portfolio.

Action Taken and Results

In the fiscal year, HR formalized our duty of care in terms of human rights at organizational level. We also worked on a comprehensive human rights policy that is set to provide the overarching framework for our human rights engagement in the future. Internally, this was fleshed out into a Group-wide human rights guideline that is to be adopted by the end of 2018. The integration of human rights risks into OSRAM's risk management system was also initiated.

To further strengthen our human rights due diligence processes in the supply chain, we published a revised Code of Conduct for Suppliers in April 2018. The scope of validity was extended from suppliers' own employees to employees of third parties, such as service providers. In addition, the Code now contains an explicit ban on all forms of modern slavery, forced labor, and human trafficking. Suppliers must also ensure that no internal or external employee is affected by unethical practices in the recruitment of new workers.

In this fiscal year, we analyzed our entire procurement volume with regard to social risks. On the basis of the identified risk areas, we will initiate appropriate risk mitigation measures in the future.

c.5.8 Combating Corruption and Bribery

Relevance

OSRAM is committed to prevent corruption and bribery as well as to fair competition.

Guidelines, Responsibilities & Structures, Processes

OSRAM's compliance management system is designed to prevent possible breaches of the applicable anticorruption 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 IDW AsS 980.

OSRAM has several IT tools at its disposal for dealing with corruption-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.

Our suppliers must sign the Code of Conduct for Suppliers (CoC), which prohibits corruption and bribery.

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. As part of the internal control system, management and the Compliance Organization conducts half-yearly respective yearly controls of the tool-based processes for dealing with business partners and entertainment.

Another element of OSRAM's compliance management system is the whistleblowing system 'Tell OSRAM', which employees and third parties can use to report violations of compliance rules. All reports are followed up. Internal compliance investigations are carried out if there are concrete indications of wrongdoing. Once an 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.

From an organizational perspective, the compliance management system consists of employees at the headquarters and in the regions. The Chief Compliance Officer reports 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 and, if needed, incident-driven.

To achieve our compliance objectives, we conduct classroom-based and online training sessions focused on anticorruption and antitrust law. The training courses are mandatory for all employees at certain functional levels and in certain sensitive functions (particularly sales, purchasing, and marketing).

Action Taken and Results

As part of the ongoing restructuring of the Group in recent years, our compliance management system has also undergone changes to its organization and function. In fiscal year 2018, we therefore engaged an auditor to audit our compliance management system pertaining to anticorruption and antitrust law in accordance with the IDW AsS 980 audit standard. A significant part of the audit took place in the reporting period (January 1 to June 30, 2018) and initially focused on OSRAM GmbH as the largest operating company and home of the corporate functions. OSRAM GmbH was certified without qualification in October 2018. The audit will resume in the period May to November 2019 so that audit certification can be obtained for the OSRAM Group as a whole.

Key Performance Indicators

Compliance incidents (in total)¹⁾

	Fiscal year	
	2018	2017
Reports on possible compliance violations	42	64
Compliance investigations (substantial)	20	16
Disciplinary consequences	3	4
Closed incidents from previous reportings	44	65

1) Compliance incidents encompass especially all plausible 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 2018 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 combined management report being incorporated by reference (hereafter non-financial group report), for the reporting period from 1 October 2017 to 30 September 2018. 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: Requirements for Quality Control in audit firms [IDW Qualitätssicherungsstandard: 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 2018, 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,
- 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,
- Inquiries and inspection of documents on a sample basis relating to the collection and reporting of selected data,
- Analytical procedures at group level regarding the quality of the reported 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 2017 to 30 September 2018 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 ([https://www.ey.com/Publication/vwLUAssets/EY-idw-aab-2017-en/\\$FILE/EY-idw-aab-2017-en.pdf](https://www.ey.com/Publication/vwLUAssets/EY-idw-aab-2017-en/$FILE/EY-idw-aab-2017-en.pdf)). 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 19, 2018

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft



Nicole Richter
Wirtschaftsprüferin
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Date of Publication

December 5, 2018

Publisher

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Concept and Design

Strichpunkt GmbH, Stuttgart/Berlin,
Germany

Printing

Meinders & Elstermann GmbH & Co. KG,
Belm, Germany

Printed on Munken Kristall brilliant white
in a climate-neutral process. Produced
from 100% recycled fiber, the paper
is FSC®-certified and carries the EU
Ecolabel.

This annual report and the magazine
are also available in German. Addition-
ally, both can be accessed at www.osram-group.de or www.osram-group.com
in German or English. If there are
any discrepancies between the two
language versions, the German text is
the authoritative version.

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