

Sustainability Report 2019 of OSRAM Licht AG

Light is OSRAM

OSRAM

Contents



Report Profile

| | |
|--|----|
| About this Report | 03 |
| Foreword | 04 |
| Our Sustainability Performance at a Glance | 06 |



Company Profile

| | |
|-----------------|----|
| 1.1 Our Company | 08 |
|-----------------|----|



Sustainability Management

| | |
|---------------------------------|----|
| 2.1 Organization and Structures | 10 |
| 2.2 Materiality Analysis | 11 |
| 2.3 Dialog with Stakeholders | 12 |



Responsible Corporate Governance and Integrity

| | |
|--|----|
| 3.1 Corporate Governance | 14 |
| 3.2 Combating Corruption and Anti-Competitive Behavior | 16 |
| 3.3 Protection and Security of Personal Data | 19 |
| 3.4 Supply Chain Management | 21 |
| 3.5 Customer Relationships | 24 |



Sustainable Products

| | |
|--------------------------------|----|
| 4.1 Added Value for Customers | 27 |
| 4.2 Innovation Management | 27 |
| 4.3 Impact Measurement | 29 |
| 4.4 Product Safety and Quality | 30 |



Environment and Climate Protection

| | |
|--|----|
| 5.1 Environmental Management | 33 |
| 5.2 Energy Efficiency | 34 |
| 5.3 Greenhouse Gases and Climate Change | 36 |
| 5.4 Water | 39 |
| 5.5 Waste | 41 |
| 5.6 Raw Materials and Substances | 42 |
| 5.7 Compliance in Environmental Protection | 46 |

About the cover picture:
Research on ultraviolet radiation for the development of high-performance UV LEDs – the germicidal impact of “blue light”



Employees

| | |
|---|----|
| 6.1 Responsibility to Employees | 48 |
| 6.2 Occupational Health and Safety | 49 |
| 6.3 Fair Working Conditions | 51 |
| 6.4 People Development | 53 |
| 6.5 Diversity and Inclusion | 55 |
| 6.6 Employee Satisfaction and Employer Attractiveness | 57 |



Society

| | |
|------------------------------|----|
| 7.1 Respect for Human Rights | 60 |
| 7.2 Social Engagement | 63 |



Appendix

| | |
|---|----|
| 8.1 List of Material Topics | 65 |
| 8.2 Independent Auditor's Limited Assurance Report regarding Sustainability Information | 66 |
| 8.3 GRI Content Index | 68 |
| 8.4 Acknowledgments and Contact | 75 |

About this Report

This Sustainability Report presents the sustainability performance of the OSRAM Licht Group (OSRAM) in fiscal year 2019. It sheds light on the impact of our business from a social, environmental, and economic perspective, and describes the systems we have developed and the measures we have taken. The report is intended to inform our stakeholders—our employees, customers, analysts and investors, suppliers, non-governmental organizations, politicians and government agencies, and anybody with an interest in the Company—about what we do in order to make our products, solutions, processes, and supply chain even more sustainable.

Like the reports for the two prior fiscal years, the Sustainability Report we present here is based on the Global Reporting Initiative (GRI) framework. This report has been prepared in accordance with the GRI Standards: Core option. The report also presents our Communication on Progress (COP) report for this fiscal year in relation to the UN Global Compact. The corresponding sections of the report have each been identified in the GRI Index. OSRAM signed up to the UN Global Compact in 2005 and has been publishing a COP since 2006.

As a company that is active in the capital markets, OSRAM is required to disclose its sustainability performance by the CSR-Richtlinie-Umsetzungsgesetz (CSR-RUG—German CSR Directive Implementation Act), which came into force at the beginning of 2017. As in the prior year, we have met these

reporting requirements through a separate non-financial group report, which forms part of the [» OSRAM Licht Group's Annual Report](#) published on December 6, 2019.

The reporting period for this Sustainability Report covers fiscal year 2019 (October 1, 2018 to September 30, 2019). Unless otherwise indicated, all figures for this fiscal year and, where applicable, the comparable figures for the prior fiscal year(s), refer to the continuing operations of the OSRAM Group*. As of September 30, 2019, OSRAM reported the North American luminaire service business, which was sold in the second quarter of fiscal year 2019, and the European luminaires business which has also been sold as a discontinued operation [» 2019 OSRAM Licht Group Annual Report, A.2.2.3 Other Significant Events Responsible for the Course of Business, p. 13](#). The prior-year figures have been restated accordingly and refer to the continuing operations of the OSRAM Licht Group unless otherwise indicated. This report—unless otherwise indicated—includes OSRAM CONTINENTAL. For certain key performance indicators, we also include a reporting period covering multiple years. Due to rounding, numbers presented in tables throughout this report may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.

The financial data is taken from the [» www.osram.com/annual-report-2019](#).

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

Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft has identified the disclosures for the period from October 1, 2018 to September 30, 2019, in the German PDF version of the report with a [...] that were subject to a limited assurance engagement in accordance with the International Standard on Assurance Engagement (ISAE) 3000 (Revised). Only disclosures for fiscal year 2019 were part of the assurance engagement. Most of the figures for the previous fiscal year were covered by the assurance engagement for the 2018 Sustainability Report and are identified as such there. This report is published in PDF format

[» www.osram.com/sustainability](#).

• GRI Index

102-40
102-45
102-48
102-49

References in the text

Internal reference (within the document)

External reference (in another document or on the Internet)



Foreword

Dear Readers,

We look back on a turbulent fiscal year in 2019. It was a year in which conditions in our most important markets have clouded over further, and a year in which several takeover bids were made for OSRAM, with the bid of Austrian chip manufacturer ams ultimately proving successful. We firmly believe that integration with ams will allow us to make even faster progress in our current transformation into a high-tech photonics champion. Our complementary strengths will enable us to create a European global market leader for sensor solutions and photonics—an engine of growth for both companies.

Throughout these changes, our products have been contributing to progress and to the quality of life of our customers and society for the past 113 years—true to our mission of using the limitless possibilities of light to improve people's lives. We are fully exploiting the potential presented by the digital revolution. And we are extending our reach far beyond lighting to cater to fields of application such as sensors, visualization, and light-based treatments. Horticulture, water desinfection, and surface treatment are just some of the areas in which we provide treatment solutions.

We want to support sustainable development while generating economic added value. Our intelligent, energy-efficient products and solutions, for example, serve to combat climate change. Furthermore, our lighting technologies are helping to enhance safety in road traffic and public spaces, protect personal data, and improve well-being in the workplace and the home.

Sustainability means responsibility, which for us includes not only the value that our products add but also the way that we treat our employees, suppliers, and customers. Throughout our value chain, we put the emphasis on careful use of resources, environmental protection, good working conditions, health and safety, and compliance with human rights—both in respect of our own employees and those of our partners.

This Sustainability Report highlights OSRAM's commitment to sustainable development. It documents the progress that we are making in our sustainability activities, which are based on the 17 Sustainable Development Goals (SDGs) of the United Nations. As a long-standing supporter of the UN Global Compact, we also align our business and our strategy to these universally acknowledged principles.

Our efforts are delivering results and we have already received several acknowledgments of our sustainability achievements. In autumn 2018, OSRAM came second in the Jewels of the German Economy ranking, and in early 2019 we were included in Corporate Knights' Global 100 index. The index lists the 100 most sustainable corporations in the world. Only five German companies made it onto the index, and OSRAM came third out of these five. In summer 2019, Volkswagen named us 'top supplier' in the 'sustainability' category at their 2019 Supplier Days. And at the end of the fiscal year, we won the 2019 Golden Peacock Global Award for Sustainability.

We also continue to be listed by ISS ESG (formerly oekom) in the Prime Status category. Furthermore, OSRAM shares are included in the sustainability indices FTSE4Good, MSCI ACWI IMI Low Carbon Leaders Index, Global Challenges Index, STOXX Global ESG Leaders, and STOXX Global Social Leaders.

The Top Employers Institute also awarded us certificates as a Top Employer in Germany, Malaysia, China, and the U.S.A. In China, OSRAM again received the Employer Excellence Award of China. We regard these accolades as both acknowledgement of our work so far and an incentive to do more.

We want to continue doing better in the future. The best way to do this is with partners who share our aims in terms of sustainable development. This is why we are issuing you with a very warm invitation to enter into a dialog with us. Your ideas are very much welcome and they will help us to continue growing our Company in a sustainable way. I hope you find this report both informative and enlightening.



Dr Olaf Berlien

Chairman of the Managing Board of OSRAM Licht AG



Our Sustainability Performance at a Glance

Key Indicators





1 . 0

Company Profile

OSRAM is undergoing a transformation from a lighting manufacturer to a high-tech photonics company. Our mainly semiconductor-based products find wide-ranging use in our specialist fields of mobility, safety, connectivity, and health and well-being.

1 . 1

Our Company

The OSRAM Licht Group comprises the parent company OSRAM Licht AG, which is headquartered in Munich and is an Aktiengesellschaft (stock corporation) in accordance with German law, and 103 subsidiaries and 22 investees [» 2019 OSRAM Licht Group Annual Report, B.6 Other Disclosures, Note 38 | List of Equity Investments of the OSRAM Licht Group in Accordance with Section 313 of the HGB, p. 130.](#)

We are currently undergoing a transformation from a lighting manufacturer into a high-tech photonics company. In addition to lighting, we are increasing our focus on sensors, visualization, and light-based treatments. Our mainly semiconductor-based products find wide-ranging use. Sample applications range from virtual reality, autonomous driving, and high-tech smartphones to intelligent and connected lighting solutions in buildings and the indoor cultivation of plants. The operating activities covered by our business model are essentially organized into three business units: Opto Semiconductors, Automotive, and Digital [» 2019 OSRAM Licht Group Annual Report, A.1.1.1 Business Model, p. 3 and A.1.1.3 Organization and Reporting Structure, p. 6.](#)

OSRAM's global business is structured on a regional basis. OSRAM's activities, which encompass more than 120 countries and over 26 production sites, are divided into three reporting regions/markets: EMEA (Europe, Russia, the Middle East, and Africa), APAC (Asia, Australia, and the Pacific region), and the Americas (U.S.A., Canada, Mexico, and South America). Key locations are listed in the [» 2019 OSRAM Licht Group Annual Report, A.1.1.3 Organization and Reporting Structure, p. 6.](#) OSRAM employed a total of around 23.5 thousand people as of September 30, 2019 (previous year: 26.2 thousand) (full-time equivalents, FTEs).

In the past fiscal year, we continued to pursue our strategic realignment despite persistently weak markets [» 2019 OSRAM Licht Group Annual Report, A.2.2.3 Other Significant Events Responsible for the Course of Business—Capital Expenditure, p. 13.](#)

Revenue by segments

in € million

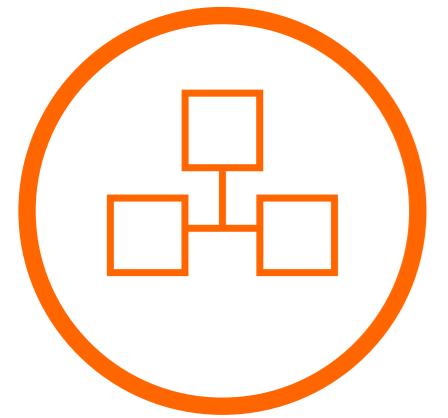
| | 2018 | 2019 |
|---|--------------|--------------|
| Opto Semiconductors | 1,725 | 1,453 |
| Automotive | 1,920 | 1,776 |
| Digital | 914 | 916 |
| Reconciliation to consolidated financial statements | -770 | -681 |
| OSRAM (continuing operations) | 3,789 | 3,464 |

Revenue by regions

(by location of customer)

in € million

| | 2018 | 2019 |
|--|--------------|--------------|
| EMEA | 1,284 | 1,180 |
| therein Germany | 692 | 553 |
| APAC | 1,462 | 1,232 |
| therein China (including Hong Kong) and Taiwan | 953 | 760 |
| Americas | 1,044 | 1,053 |
| therein U.S.A. | 871 | 805 |
| OSRAM (continuing operations) | 3,789 | 3,464 |



2.0

Sustainability Management

Because we are an international business, our responsibilities extend around the world. Sustainability is a key pillar of our Company's positioning. Our sustainability strategy provides an overarching framework for our actions and activities.

2 . 1

Organization and Structures

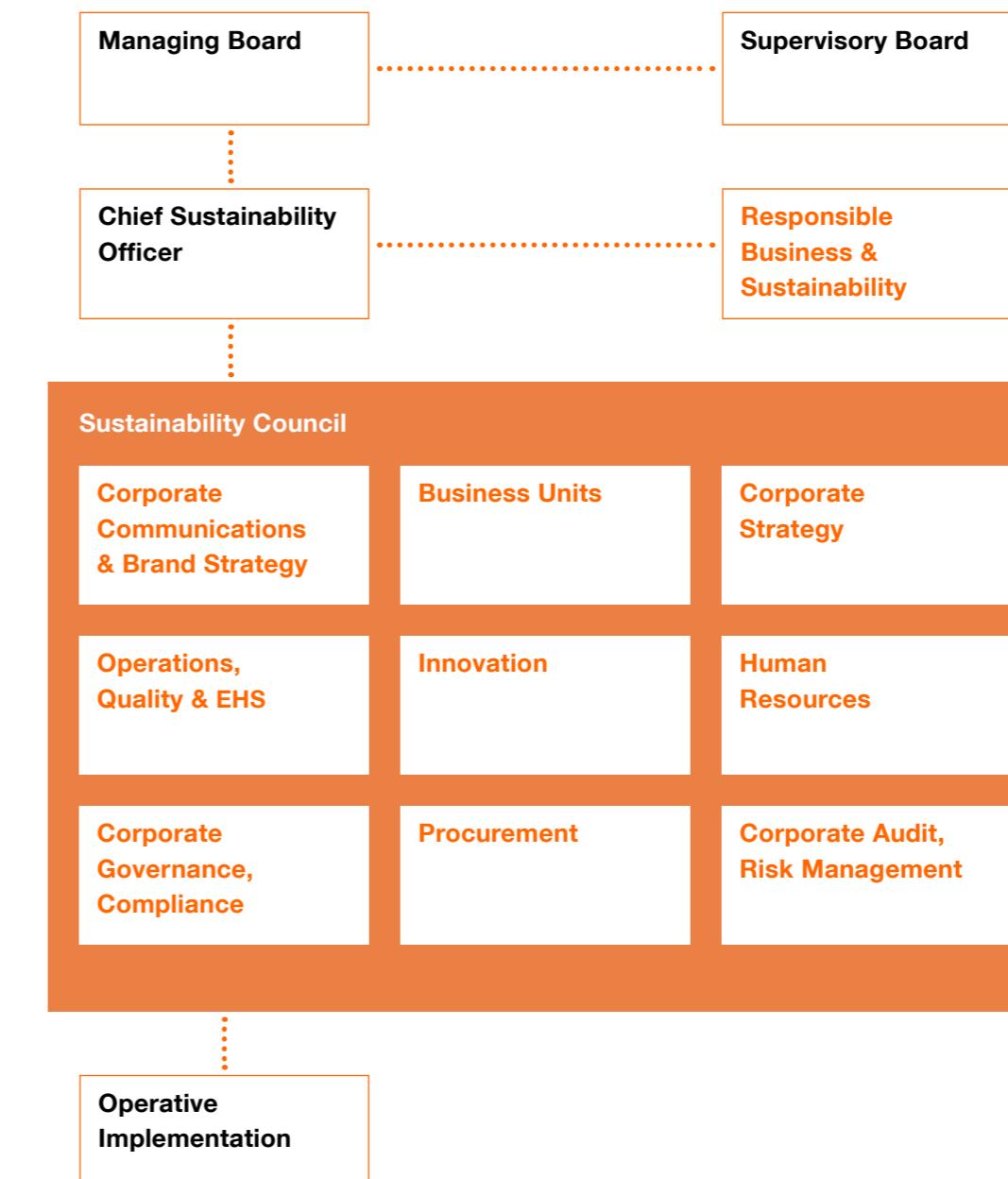
Our business activities and the impact that they have on the economy, the environment, and society mean that our responsibilities extend around the world. We* meet our responsibilities by aligning ourselves with the UN's Sustainable Development Goals and complying with international law, in line with the principles of the UN Global Compact. We have identified our key areas for action as part of our materiality analysis [2.2 Materiality Analysis, p. 11](#). These include promoting climate protection and energy efficiency in our own business and further developing our product portfolio. Our objective is to keep pace with the competition and offer safe products that add value for our customers, while also contributing to society. Throughout the value chain, we put the emphasis on protecting the environment and resources and acting as a fair employer that looks after the health and safety of its employees and strives to fulfill its duty of care with regard to human rights. We want to develop the individual skills of our workforce and be an employer of choice for potential employees. We are committed to fair competition,

to combating corruption and bribery, and to protecting the data of our customers, partners, and employees. In all of these areas, we help to continually reduce negative impacts and strengthen positive effects using appropriate guidelines, management systems, and measures. In the following chapters, we describe how we are fulfilling this responsibility.

The issue of sustainability touches on many aspects of the business, and responsibility for this area lies directly at Managing Board level in the form of the Chief Sustainability Officer. The Responsible Business & Sustainability department works with the relevant partners from functions throughout the Company to develop action plans and focal areas, which are then presented to the Sustainability Council. The latest trends and emerging economic, social, and environmental issues that could become relevant to OSRAM are discussed by the Council and embedded within the organization if appropriate. The Sustainability Council also approves the draft resolutions on sustainability to be submitted to the Managing Board.

The Sustainability Council is headed by the Chief Sustainability Officer and comprises the heads of the business units and the heads of those corporate functions that have sustainability-related issues. Other experts are co-opted depending on the topics being dealt with, and other delegates from appropriate functions are also involved as necessary.

Sustainability governance structure



(P) Page <11>

* OSRAM's centralized sustainability management does not include OSRAM CONTINENTAL. However, the management approaches and results at OSRAM CONTINENTAL are included in OSRAM's sustainability reporting.

2 . 2

Materiality Analysis

The materiality analysis carried out in fiscal year 2018 provides the basis for our reporting. It meets the requirements of both GRI and CSR-RUG. The following criteria have been defined on this basis:

- High relevance for stakeholders (GRI)
- Required to understand the impacts of the business activities (GRI and CSR-RUG)
- Required to understand the development and performance of the business and the position of the Group (CSR-RUG)

The materiality analysis process was divided into five phases:

1. The first step was to establish the materiality process in line with the requirements of GRI and CSR-RUG.
2. The next step was to identify potential topics. A media analysis, internal sources, a peer review, stakeholder feedback, global standards, and supporting interviews provided the basis for this.
3. In the next step, these topics were divided into five categories: Environment, Employees, Social, Human Rights, and Compliance.

4. For each of these categories, an assessment was carried out regarding OSRAM's impact. The significance of the individual topics for stakeholders and for the business was also assessed.
5. Finally, a review was carried out to determine in which stages of the value chain these impacts occur. The topics were also prioritized according to their importance for stakeholders and for the development and performance of the business and the position of the Group.

The materiality analysis yielded the following list of topics, which was presented to and approved by the Managing Board.

The material topics for OSRAM in accordance with GRI are:

| |
|---|
| Combating corruption and bribery |
| Protection and security of personal data |
| Customer relationships |
| Product safety |
| Energy efficiency |
| Greenhouse gases and climate change |
| Raw materials and substances |
| Occupational health and safety |
| Fair working conditions |
| People development |
| Employee satisfaction and employer attractiveness |
| Human rights |

In fiscal year 2019, a review was conducted to determine whether the materiality analysis needed to be updated or modified due to any significant changes to key influencing factors both inside and outside the Company. The review showed that no significant changes had occurred that would be relevant to the business or have any significant negative impacts.

All topics that are considered to be material in accordance with CSR-RUG have already been featured in the Non-financial Group Report for fiscal year 2019. It forms part of the OSRAM Licht Group Annual Report » www.osram.com/annual-report-2019.

For a comprehensive list of the topics we have identified as material, and the equivalent GRI topics, see the appendix

» [8.1 List of Material Topics](#), p. 65. This Sustainability Report also covers topics that we consider relevant to our stakeholders or help to paint a broader picture of sustainability at OSRAM. That also applies to topics that are not referenced in the GRI standards.

- **GRI Index**
- 102-43
- 102-44
- 102-46
- 102-47

(P) Page <65>

2 . 3

Dialog with Stakeholders

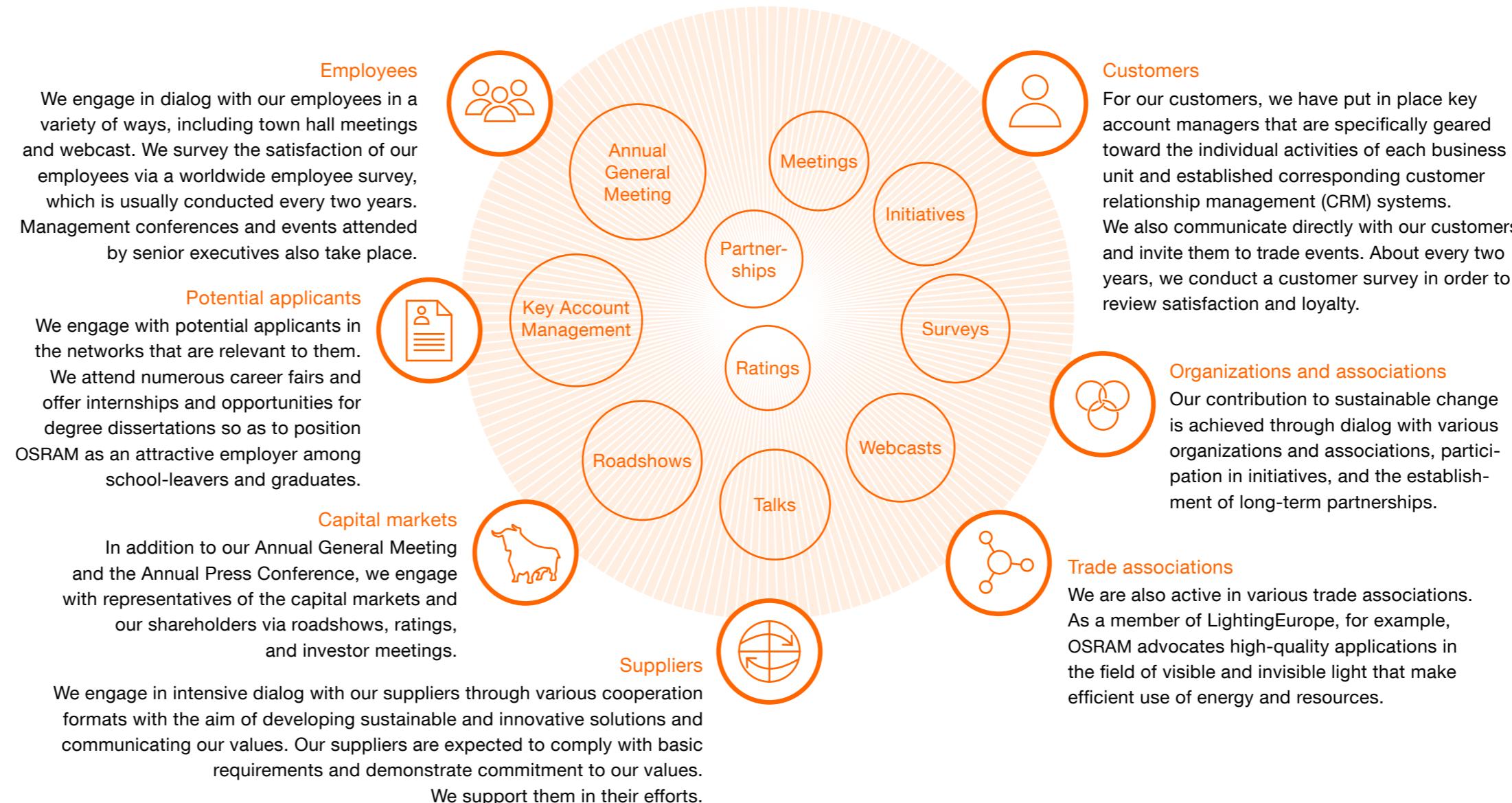
We* look to improve the sustainability of our activities by engaging in dialog with our stakeholders. We use the feedback obtained in the process of communication to continuously improve our strategy and measures. In doing so, we also help to spread the word about sustainable practices.

We regularly engage in dialog with our stakeholders around the world: employees, customers, suppliers, analysts, investors, journalists, academics, neighbors, politicians, and representatives of non-governmental organizations, government agencies, and associations. We communicate at different management levels, at varying locations, and through a range of departments. The interests of key stakeholders such as employees, customers, suppliers, analysts and investors are also taken into account by the Supervisory Board, whose members—half of whom are employee representatives—have expertise in various fields. The Responsible Business & Sustainability department assesses the relevance of various topics for stakeholders once a year. The most recent assessment was carried out in May 2018 as part of our [2.2 Materiality Analysis, p. 11](#). The Responsible Business & Sustainability department checked that this was up to date

in summer 2019. The department also examines the make-up of our stakeholders, identifies which communication channels exist for each group, and documents the implemented measures. The results are reported to the Managing Board if there are any significant changes.

- **GRI Index**
- 102-40
- 102-42
- 102-43
- 102-44

We communicate with our stakeholders in many different ways:





3 . 0

Responsible Corporate Governance and Integrity

OSRAM would not be able to achieve its sustainable business success without the trust of its stakeholders such as employees, customers, investors, and suppliers. We strengthen this trust by means of transparent and responsible corporate governance.

3 . 1

Corporate Governance

OSRAM Licht AG is an Aktiengesellschaft (stock corporation) in accordance with German law and has a two-tier management system consisting of a Managing Board and a Supervisory Board [» 2019 OSRAM Licht Group Annual Report, C.4 Corporate Governance, p. 151](#). The Managing Board currently has three male members, all of whom are German nationals. The members of the Managing Board are appointed by the Supervisory Board, which also determines the assignment of responsibilities on the Managing Board.

The Supervisory Board is made up of twelve members: six representatives of the shareholders, who are appointed by the General Meeting, and six representatives of the employees, who are elected on the basis of the Mitbestimmungsgesetz (MitbestG—German Codetermination Act). The members of the Supervisory Board and its committees are disclosed in the Company's Notes to the Consolidated Financial Statements in the Annual Report [» 2019 OSRAM Licht Group Annual Report, B.6 Other Disclosures, Note 39 I Supervisory Board and Managing Board, p. 133](#). The objectives for the composition of the Supervisory Board are published on the Company's website [» www.osram.com/governance](#). The Supervisory Board strives to include a wide range of professional and international experience in its composition and in particular to have reasonable representation of both genders. On September 30, 2019, a total of

five members of the Supervisory Board were women and three members were of a nationality other than German. The CVs of the members of the Managing Board and the Supervisory Board are published on the Company's website [» www.osram.com/management](#).

OSRAM Licht AG complies with all the recommendations of the German Corporate Governance Code included in the version dated February 7, 2017, which comprises key regulations on the management and supervision of publicly listed German companies, and internationally and nationally acknowledged standards for good and responsible corporate governance. The Corporate Governance Declaration is updated annually and is published on the website of our Company [» www.osram.com/governance](#).

3.1.1 Functions and Responsibilities of the Governance Bodies

As the management body of OSRAM Licht AG, the Managing Board is bound and committed to the Company's interests and to sustainably increase shareholder value. The members of the Managing Board 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 financial statements of OSRAM Licht AG and the OSRAM Group. It must also ensure that all legal and regulatory requirements and internal guidelines are complied with, and must work to ensure that all Group companies comply with them as well. In order to fulfill its duty in this regard, the Managing Board

must ensure that an appropriate compliance management system (including data privacy) is in place that takes into account the risk situation of the Company

[» 2019 OSRAM Licht Group Annual Report, C.4.3.2 Disclosures on Corporate Governance Practices—Company Values, Business Conduct Guidelines, and Compliance Management System, p. 167](#).

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 on 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 (for detailed information on the relevant targets, see [» 2019 OSRAM Licht Group Annual Report, C.4.3.4 Targets for the Proportion of Women on the Managing Board, Supervisory Board, and in Senior Management, p. 169](#)). The Supervisory Board has set the target for the proportion of women on the Company's Managing Board to be achieved by June 30, 2022, at 25%.

The Supervisory Board oversees and advises the Managing Board with regard to the management of the business. It regularly discusses business performance, planning, strategy, and the implementation of strategy. Important decisions by the Managing Board on issues such as major acquisitions, divestments, and financial actions require its approval. The Supervisory Board regularly reviews the efficiency of its

work, involving external experts where required. This process entails identifying and acting on potential areas for improvement [» 2019 OSRAM Licht Group Annual Report, C.3 Report of the Supervisory Board, p. 144](#). The Annual Report provides a comprehensive description of the working practices and functions of the Managing Board and the Supervisory Board, their relationship, and the composition and working practices of the committees of the Supervisory Board [» 2019 OSRAM Licht Group Annual Report, C.4 Corporate Governance, p. 151](#).

3.1.2 Remuneration and Independence

The remuneration of the Managing Board comprises non-performance-based and performance-based components and is intended to provide incentives for sustainable corporate governance. 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. When setting short-term variable remuneration, the Supervisory Board also takes into consideration non-financial targets. The Supervisory Board carries out regular reviews to ascertain that the level of remuneration for the Managing Board is appropriate. The remuneration for the members of the Supervisory Board is defined in the Articles of Association of the Company. The remuneration report describes in detail the structure of the remuneration system for the Managing Board and the remuneration principles, and it provides explanations of the structure and the level of remuneration for the members of the Managing Board and the members of the Supervisory Board [» 2019 OSRAM Licht Group Annual Report, C.4.2 Remuneration Report, p. 156](#).

The Supervisory Board believes that all shareholder representatives are independent within the meaning of the German Corporate Governance Code. 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. At least three of the shareholder representatives on the Supervisory Board are people with no potential conflicts of interest. Some members of the Supervisory Board work in senior positions at other companies with which OSRAM has business relationships or has done so in the past 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. If any conflicts of interest arise in the course of routine business, they must be disclosed to the Chairman of the Supervisory Board. If the conflicts of interest are significant and not simply of a temporary nature, the affected member of the Supervisory Board should step down from his or her position.

You will find additional information in the Annual Report [» 2019 OSRAM Licht Group Annual Report, C.4 Corporate Governance, p. 151](#).

3.1.3 Corporate Values

The basis for a trusting cooperation is mutual respect, honesty, and integrity. These principles* are set out in our [» Business Conduct Guidelines \(BCG\)](#), which every new employee must sign at the start of their contract. Legal reg-

ulations and international treaties on human rights, the fight against corruption, and other areas of responsible corporate governance form the basis of the Business Conduct Guidelines [» 2019 OSRAM Licht Group Annual Report, C.4.3.2 Disclosures on Corporate Governance Practices, p. 167](#): We respect the personal dignity, privacy, and personal rights of every individual, and we reject all forms of discrimination [» 6.5 Diversity and Inclusion, p. 55](#). The Business Conduct Guidelines set out how we meet our ethical and legal responsibilities as a Company. They apply both to internal working relationships and to conduct toward external partners such as suppliers. In Germany, our Group-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 [» 6.3 Fair Working Conditions, p. 51](#). Any violations of our principles can be reported via the whistleblowing system 'Tell OSRAM' [» 3.2 Combating Corruption and Anti-Competitive Behavior, p. 16](#).

3.1.4 Memberships and Political Engagement

Overall responsibility for our political engagement lies with the Managing Board, supported by the Public Affairs department. In line with our values, we are committed to not making any direct or indirect donations—or any other contributions—to politicians, political parties, or political organizations. Our Business Conduct Guidelines contain rules to this effect. OSRAM does not operate lobbying offices, nor does it employ lobbying agencies.

Sponsorships are not considered donations, nor are contributions to industry associations or fees for memberships in organizations that serve business interests. Sponsorships

(P) [Page <55>](#)

(P) [Page <51>](#)

(P) [Page <16>](#)

must be free of any political contributions, meet certain transparency requirements, and be documented in the form of a written agreement, be earmarked for legitimate business purposes, and be commensurate with the consideration offered by the event host ➤ [7.2 Social Engagement, p. 63](#).

OSRAM is a member of LightingEurope, which represents leading lighting manufacturers and national trade associations. As a key member of the association, OSRAM is pushing for the new requirements to not only cater to the overarching objective of low-energy, resource-efficient, and high-quality lighting but also to take account of users' needs, as well as to be feasible for implementation by the industry. Within this framework, we make a contribution to the further development of the circular economy through topics such as the repairability of products ➤ [5.6.3 Take-back and Circular Economy, p. 45](#). We advise governments and authorities, for example on solutions for sustainable urban development. In addition, we are actively championing the introduction of globally harmonized substance restrictions, for example in connection with the implementation of the United Nations' Minamata Convention, which requires the signatory countries to refrain from using mercury. The European regulations on the restriction of the use of certain hazardous substances RoHS and REACH, which carry global weight, are further important topics ➤ [2019 OSRAM Licht Group Annual Report, A.1.1.4 Legal and Sector-specific Conditions, p. 6](#).

Objectives and Results

We manage memberships centrally to create transparency across the Group. Our political engagement remained limited to membership of industry associations in fiscal year 2019. This included the three most important associations for our industry: the German Electrical and Electronic Manufacturers' Association (ZVEI), LightingEurope, and the North American Electrical Manufacturers Association (NEMA), as well as employer and business associations. During the fiscal year, we paid membership fees totaling €3 million (previous year: €3 million).

3 . 2

Combating Corruption and Anti-Competitive Behavior

(P) [Page <63>](#)

[OSRAM is committed to the prevention of corruption and bribery as well as to fair competition. We believe that sustainable business success can be achieved only through lawful and responsible practices. Bribery and corruption are an impediment to healthy markets and hold back economic growth and the development of the affected society. Our open corporate culture and the established and effective compliance management system are key components in our endeavors.

Guidelines, Responsibilities & Structures, and Processes

OSRAM's compliance management system is designed to prevent possible violations of 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 the IDW AssS 980 assurance standard. From an organizational perspective,

(P) [Page <45>](#)

the compliance management system consists of employees at the headquarters and in the regions. The Compliance department has the managerial authority to issue guidelines, specifies content and processes, and regularly monitors compliance. The Chief Compliance Officer reports directly to the Chairman of the Managing Board. As part of its remit to supervise management functions, the Supervisory Board monitors the effectiveness and appropriateness of the compliance management system. At OSRAM, this task is assigned to the Supervisory Board's Audit Committee, to which the Chief Compliance Officer reports on a quarterly basis and, if needed, incident-driven.

Compliance risk assessments focused on combating corruption and on antitrust law are regularly carried out in selected entities and areas of the business in order to identify compliance risks and make continuous improvements to the Group-wide compliance management system. Each management team and the compliance organization also conduct regular controls of tool-based processes for dealing with business partners and invitations to entertainment events, for example. These controls are also part of our internal control system [» 2019 OSRAM Licht Group Annual Report, A.4.2.5 Key Features of the Accounting-related Internal Control and Risk Management System, p. 45.](#)

OSRAM has several tools at its disposal for dealing with corruption-related risks. For example, we review and classify certain business partners according to particular criteria, such as the prevalence of corruption in the country in which the partner operates, and require them to comply with rules on combating corruption. Our suppliers must sign the Code of Conduct for Suppliers, which prohibits corruption and bribery [» 3.4 Supply Chain Management, p. 21.](#)

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, anonymously if they so wish. Reports can also be made through the usual internal company channels, such as the relevant Compliance Officer, Corporate Compliance, or the line manager. All reports received by OSRAM are followed up. Retaliation against whistleblowers will not be tolerated. Internal compliance investigations are carried out if there are concrete indications of wrongdoing. Once 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.

A further key component of our compliance management system is our employee training program, as part of which we conduct classroom-based and online training sessions focused on combating corruption and on antitrust law. The training courses are mandatory for all senior-level employees and for all employees working in sensitive functions (particularly sales, purchasing, and marketing).

(P) [Page <21>](#)

Regular communication activities are carried out to raise awareness among employees and to strengthen the compliance culture. They highlight the commitment of management to compliance and the relevance of compliance to OSRAM.

OSRAM CONTINENTAL, which was founded in fiscal year 2018, introduced a compliance management system in fiscal year 2019. This is also designed to prevent breaches of the applicable anticorruption and antitrust laws and is based on the OSRAM CONTINENTAL Code of Ethics.

OSRAM's compliance management system contains also specific rules that formalize its commitment to upholding antitrust law. Any form of arrangement with business partners or competitors that aims to unfairly influence the market or otherwise restrict competition is prohibited for all employees.

The compliance management system is also covering the topic of anti-money laundering since July 2018. Targeted measures are now helping us to meet the requirements of anti-money-laundering law. Via our internal whistleblowing system 'Tell OSRAM,' it is also possible to report suspicious cases of money-laundering and terrorism financing to the Compliance department, which alerts the relevant authorities if necessary.

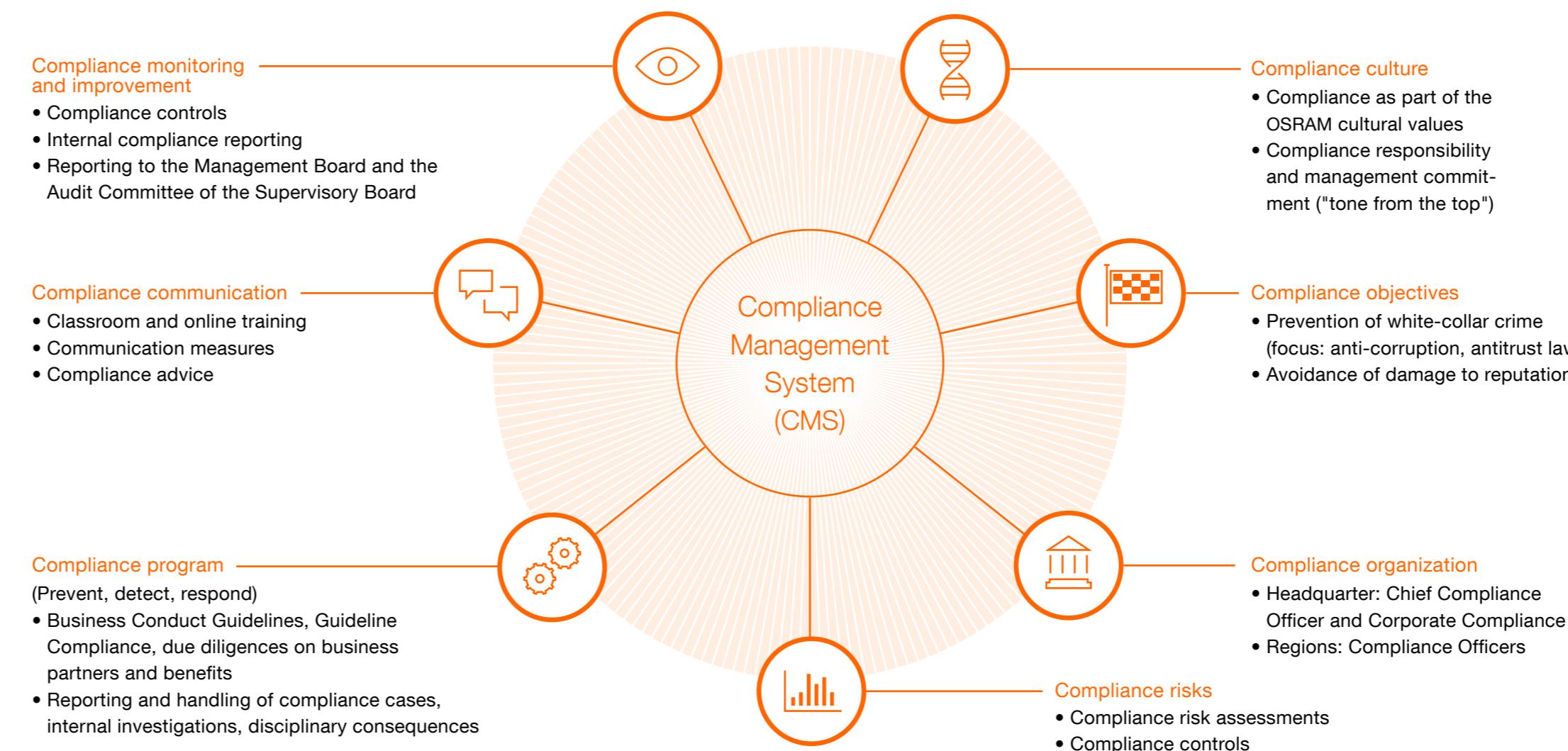
Objectives

Our overarching objective is to systematically combat corruption and bribery, to follow up on all suspected breaches, and to enforce consequences if a breach is confirmed.

In order to meet this objective, we need an effective compliance management system that reflects the organizational structure of the OSRAM Licht Group and the relevant regulatory environment. We therefore engaged an auditor in fiscal year 2019 to review our compliance management system pertaining to combating corruption and to antitrust law, and certify it in accordance with the IDW AssS 980 assurance standard.

A modern training program is a key component of our compliance management system. That is why we want to reflect the current regulatory environment and OSRAM organization in our classroom-based and online training sessions, and provide our employees with the most comprehensive training coverage possible. ☑

OSRAM Compliance Management System according to IDW AssS 980



[In fiscal year 2019, we set ourselves the task of implementing training and communication measures to raise awareness among employees in sensitive functions of risks related to money laundering and terrorism financing. In this respect,

we want our training program to reflect the latest developments in the regulatory environment, and we aim to regularly train our employees.

Action Taken, Results, and Performance Indicators

In fiscal year 2018, we engaged an auditor to review our compliance management system pertaining to combating corruption and to antitrust law in accordance with the IDW AssS 980 assurance standard. A significant part of the review took place in fiscal year 2018 and focused on OSRAM GmbH as the largest operating company and home of the corporate functions. The adequacy, implementation, and effectiveness of the OSRAM Licht Group's compliance management system was certified without qualification in accordance with the IDW AssS 980 assurance standard in October 2019.

Targeted communication measures were taken in fiscal year 2019 to raise awareness among the employees. For example, a video interview with the Chairman of the Managing Board on the importance of compliance to the Company's success was published on the intranet, and compliance-related questions were raised in panel discussions with internal experts.

In fiscal year 2019, we adapted our training program to the current regulatory requirements and incorporated insights from the successful review of the compliance management system. The following table provides information on our training activities with focus on anti-corruption.

In addition to the above-mentioned training on anti-corruption, a total of 406 employees successfully completed the online training on antitrust law.

Compliance training focusing on anti-corruption

(continuing operations)

| | 2018 | 2019 |
|---|--------|--------|
| Employees (OSRAM Licht Group; FTE) | 26,200 | 23,500 |
| Number of employees trained (in-person and online) | 4,926 | 6,686 |
| thereof in EMEA | 1,305 | 2,722 |
| thereof in APAC | 3,216 | 2,588 |
| thereof in Americas | 405 | 1,376 |

There were 27 reports of possible compliance violations in fiscal year 2019 (previous year: 41). In total, six cases had disciplinary consequences in fiscal year 2019 (previous year: three).

Compliance incidents¹

(continuing operations)

| | 2018 | 2019 |
|---|--------|--------|
| Employees (OSRAM Licht Group; FTE) | 26,200 | 23,500 |
| Reports on possible compliance violations | 41 | 27 |
| Compliance investigations (substantial) | 20 | 14 |
| Disciplinary consequences | 3 | 6 |
| Closed incidents from previous reportings | 43 | 31 |

[1) Compliance incidents encompass especially all possible allegations of a violation of criminal or administrative law related to OSRAM's business activities.] ☑

In fiscal year 2019, no legal actions were brought against OSRAM for anti-competitive behavior, breaches of antitrust law, or monopolistic practices.] ☑

3 . 3

Protection and Security of Personal Data

[The shift in the lighting market toward semiconductor-based technologies and photonics solutions is opening up new business opportunities that OSRAM would like to take full advantage of »[2019 OSRAM Licht Group Annual Report, A.1.1.1 Business Model, p. 3](#). This changing market is also characterized by ever greater digitalization, which presents opportunities, but also risks. The scope of personal data being processed is growing all the time as more and more web-based apps and products become available. At the same time, more and more regulatory requirements have been introduced concerning the protection, integrity, and availability of personal data. We aim to protect any personal data that we collect and only use it in a way that is in compliance with the law.

Guidelines, Responsibilities & Structures, and Processes

OSRAM has embedded data privacy in its business principles and internal guidelines, and introduced a data privacy management system (DPMS) in fiscal year 2018 to achieve its goals. Data privacy encompasses the protection of personal data pertaining to employees and customers, but also to our business partners and their customers. Our actions in this regard are guided by the requirements of national and international data privacy laws. Our data privacy guideline reflects

these legal requirements and covers the entire OSRAM Group. Applicable to all employees, it contains mandatory core principles and practical guidance for the handling of personal data and defines in more detail the general principles of data privacy set out in our Business Conduct Guidelines.

The data privacy organization is a global function and forms part of the compliance organization. The head of Group Data Privacy is responsible for the Group-wide DPMS and its implementation in the OSRAM Group companies. Data privacy coordinators are named in the Group companies or, if necessary, data privacy officers are appointed. The head of Group Data Privacy reports to the Managing Board on all developments. Data privacy is also routinely covered in the Chief Compliance Officer's reports to the Managing Board and the Audit Committee of the Supervisory Board.

OSRAM's data privacy organization has the managerial authority to issue Group-wide data privacy guidelines, formulates guidelines that apply across the Group, and regularly checks that these are adhered to.

We require our employees to treat personal data and information confidentially. The specific rules are described in our data privacy guideline. In addition, we provide a web-based training on data privacy to all employees who have access to an email account. All our business partners that handle sensitive data are also required to train their employees accordingly. This applies in particular to our service providers and suppliers.

Despite the high technical and organizational security standards that we have in place, data breaches cannot be completely ruled out. OSRAM is required by law to promptly notify the competent supervisory authorities if it is believed that a personal data breach has occurred. Since fiscal year 2018, it has also been possible to report suspected data privacy breaches via the existing whistleblowing system 'Tell OSRAM'

➤ **3.2 Combating Corruption and Anti-Competitive Behavior,**
p. 16.

Objectives

Our objective is to protect the personal data of our employees and customers, as well as that of business partners and their customers, in all our products and processes and to avoid data breaches. Numerous technical and organizational measures are in place to help us achieve this objective.

To help us meet this challenging objective in an international and heavily regulated environment, we have defined supporting objectives. As well as taking care that our guidelines and training materials comply with the applicable laws and regulations, we want to reach a point where any OSRAM employee who comes into contact with personal data in the course of their work undergoes regular basic training. It is also our goal to integrate all new locations, either newly established or added as a result of acquisitions, into the data privacy organization within twelve months and to train the new employees accordingly.

Action Taken, Results, and Performance Indicators

In fiscal year 2019, the Group guideline on data privacy was brought into line with the current laws and regulations and the processing register was updated. Privacy policies and consent forms for employees, customers, and shareholders were also revised and data privacy requirements were integrated into the product development processes.

(P) Page <16>

The basic online training on data privacy, which is provided regularly—most recently in fiscal year 2018—is currently being updated in line with the current regulatory environment with a view to it being carried out again in fiscal year 2020.

During the reporting period, all locations and parts of companies brought into the OSRAM Licht Group within the preceding twelve months were integrated into the data privacy organization and the relevant employees were trained accordingly. A total of 11,304 employees received training via the web-based training tool or a classroom-based session.

Data privacy training was provided to 21 employees of OSRAM CONTINENTAL in fiscal year 2019.

Various means of communication were used to raise awareness of data privacy among employees. OSRAM held another data privacy and compliance day, for example. Employees at headquarters were given the opportunity to participate in panel discussions and visit stands where they could find out about data privacy and about services offered by the Data Privacy department.

During fiscal year 2019, we did not receive any inquiries related to data privacy from the competent supervisory authorities. No complaints were made by customers either. We received five requests for information, which were answered adequately and within the period of time prescribed by law. During the fiscal year under review, we reported two data privacy breaches to the competent supervisory authorities. Because of the action that we had already taken, the supervisory authorities put the reports on file and refrained from issuing any sanctions.] 

3 . 4

Supply Chain Management

[As a global company with an extensive network of suppliers, OSRAM has a responsibility for the environment and society all along its supply chain. That is why we place great importance on how we select our international partners and how we work with them. We also have internal and external control mechanisms in place. In particular, these enable us to fulfill our duty of care with regard to human rights in the context of conflict minerals  [7.1.1 Conflict Minerals, p. 62.](#)

Generally speaking, we strive for long-term relationships with reliable and flexible partners.

Guidelines, Responsibilities & Structures, and Processes

OSRAM's procurement function is managed globally but is organized regionally with regard to certain materials and services. Germany, China, Malaysia, and the U.S.A. are the countries from which we procure the most; key fields of material include pre-materials for opto semiconductors, contract manufacturing, and electronic components. For each raw material group, we have formulated specific requirements for suppliers. For example, they must provide evidence of certification, be compliant with RoHS/REACH  [5.6.1 Critical Substances, p. 43,](#) and undergo supplier

audits. Strategic buyers check compliance and manage the suppliers in conjunction with the Quality Management, Logistics, and Research & Development departments. These sourcing teams are responsible for the procurement strategy in all fields of material. For matters relevant to sustainability, for example training courses, conflict minerals, and the coordination of audits, the sourcing teams are supported by the Environmental Protection, Health and Safety (EHS), Corporate Procurement, and Responsible Business & Sustainability departments.

Embedded within the supplier development and supplier qualification processes are various requirements that help us to fulfill our duty of care with regard to human rights

 [7.1 Respect for Human Rights, p. 60.](#) The strategic buyers and the local purchasing representatives are responsible for implementing these requirements. Corporate Procurement is responsible for compliance and for providing training on the individual steps involved in supplier management.

The expertise of our employees is a further cornerstone of our supplier management process. We regularly provide information and training to our global purchasing teams and we offer guidance on matters relevant to human rights, for example at the town hall meetings that take place every two months for employees of the procurement organization. The training courses cover overarching topics such as the importance of the Sustainable Development Goals for purchasing at OSRAM, and on specific changes relevant to sustainability in our supply chains. We have summarized the objectives and results at the end of this chapter  [Objectives, Action Taken, and Results, p. 23.](#)

 [Page <60>](#)

 [Page <62>](#)

 [Page <23>](#)
[Page <43>](#)

3.4.1 Code of Conduct for Suppliers

We expect our suppliers to comply with all laws and regulations and with the values set out in our Business Conduct Guidelines. We have produced our own Code of Conduct* (CoC) www.osram.com/coc which incorporates our basic principles and international standards such as the UN Global Compact and the Conventions of the International Labour Organization [International Labour Organization \(ILO\)](http://International Labour Organization (ILO)). The CoC for Suppliers contains topics such as:

- compliance with all applicable laws,
- combating corruption,
- observance of human rights of employees,
- compliance with laws prohibiting child labor,
- responsibility for employee health and safety,
- compliance with the relevant national laws and international standards on environmental protection, and
- the express demand that these values are implemented and complied with in the supplier's own supply chain.

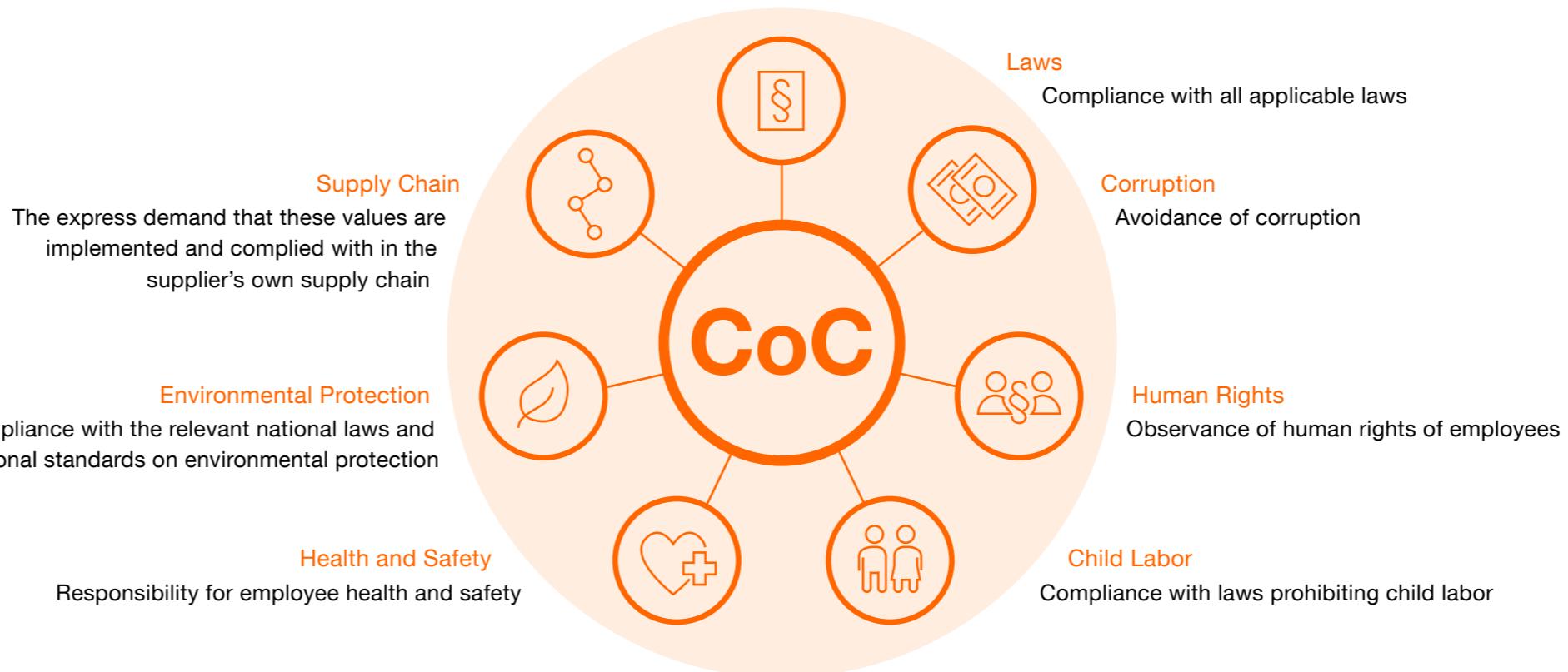
Since fiscal year 2018, the Code has also contained an explicit ban on all forms of modern slavery, forced labor, and human trafficking. Suppliers must prevent internal and external employees being affected by unethical practices in the recruitment of new workers. The CoC is mandatory for all suppliers with a procurement volume of €50,000 or higher. It also forms part of the qualification process that new suppliers to OSRAM must go through. Irrespective of the procure-

ment volume, each supplier receives notification of OSRAM's General Terms and Conditions and CoC when purchase orders are placed. By signing the CoC, suppliers join OSRAM in making a commitment to continuously improving their environmental measures and establishing an appropriate environmental management system. We give preference to ISO 14001-certified suppliers, particularly if their materials are incorporated directly into our products.

3.4.2 Review of Suppliers

OSRAM performs a continuous risk assessment of direct suppliers, i.e., those that supply product materials, which takes into account country risks and procurement market risks. Strategic suppliers, which include all those classified as 'preferred' as well as innovation and integration partners, undergo a sustainability assessment. Before they are included in the supplier

Our Code of Conduct (CoC) covers topics such as



* At OSRAM CONTINENTAL, the requirements to be met by suppliers with regard to fair working conditions and respect for human rights are set out in OSRAM CONTINENTAL's Code of Ethics.

system, all suppliers are also checked against restricted party lists (German, European, and U.S. sanctions lists). Updated lists are automatically uploaded into OSRAM's export monitoring systems so that appropriate checks are also made of existing suppliers when an order is submitted. Suppliers from countries where social risks are more acute must also submit a self-assessment on relevant aspects of corporate responsibility. The selection is based on the country assessment of [Transparency International \(Transparency International Corruption Perceptions Index ≤ 40\)](#).

We use many tools and processes to fulfill our duty of care with regard to human rights [7.1 Respect for Human Rights, p. 60](#) and to check compliance with our CoC in the supply chains. Based on the analysis of our procurement volume with regard to social risks, each year a selection of existing suppliers are requested either to submit an up-to-date corporate responsibility (CR) audit or to have it carried out, or to prove compliance with CR requirements by means of equivalent certifications (ISO 14001 in combination with ISO 45001 or OHSAS 18001). The suppliers are assessed according to the following criteria:

- High country risk: all suppliers from countries that score 40 points or fewer in Transparency International's Corruption Perceptions Index
- Social risk of the material group: categorized as low, medium, or high based on the Company-wide materiality analysis; highest risk: construction services, assemblies, and electronic components

- Procurement volume:
 - Up to €50,000: low risk
 - Up to €500,000: medium risk
 - > €500,000: high risk
- Supplier is set up for international business: the risk associated with a small, local supplier combined with the country risk can be higher than that of a global company that is committed to international standards
- Results of previous self-assessments and/or on-site audits

The suppliers are assigned to one of five risk groups based on this risk assessment. The suppliers in the highest risk groups are invited to undergo the CR audit, which is valid for three years. The supplier is then eligible for selection again. The audits cover health and safety, wages and salaries, working hours, environmental protection, and management systems. ISO 14001 certificates are stored in our global purchasing system to verify environmental compliance and their validity is regularly checked. As part of the qualification process, new suppliers from which materials are to be purchased directly must undergo a process audit in accordance with VDA 6.3 (German Association of the Automotive Industry). The audit assesses the supplier's manufacturing processes and service processes. The results of the process audit are published in our global purchasing system and, as such, are integrated into the overall procurement process. On-site audits provide an assessment of the environmental and social situation.

Objectives, Action Taken, and Results

In fiscal year 2019, town hall meetings for employees of the procurement organization were again used for training on human rights matters. In collaboration with the HR department, lectures on 'Human rights and our duty of care in purchasing' were organized to coincide with the approval of the new OSRAM Human Rights Policy.

As part of the relationship with our existing suppliers, we again evaluated the results of the CR audits and/or other certifications that were requested in fiscal year 2019. The audits' geographical focus in fiscal year 2019 was on China and Malaysia. The regular audits, carried out by independent auditors, of our duty of care regarding human rights and of compliance with our CoC for Suppliers identified non-compliance in the areas of working hours and health and safety as the most common failures in fiscal year 2019. Nonetheless, there was a slight improvement in compliance with working hours and therefore fewer cases of excessive overtime. Action plans have been drawn up that are designed to remedy the identified failures and improve the performance of the supplier over the long term.

We strive to achieve a coverage rate for the CoC of 100% for our entire purchasing volume. Increasing the proportion of our direct materials suppliers that hold ISO 14001 certification is a further aim. A joint campaign by the Environmental Protection, Health and Safety, Quality, and Purchasing departments in fiscal year 2019 raised awareness among our suppliers of the importance of environmental aspects.

(P) [Page <60>](#)

In fiscal year 2018, we analyzed our entire procurement volume with regard to social risks [7.1 Respect for Human Rights—Action Taken and Results, p. 61](#). On the basis of the identified risk areas, we will initiate appropriate risk mitigation measures in the future. The results of the inspections are taken into consideration when selecting suppliers to invite to the next CR audit.] 

Procurement performance indicators

(continuing operations)

| | 2018 | 2019 |
|--|---|---|
| Number of suppliers | 14,054 | 13,614 |
| Procurement volume | €2.6 billion (of which 58% is accounted for by local suppliers ¹⁾) | €1.9 billion (of which 63% is accounted for by local suppliers ¹⁾) |
| (goods and services acquired from third parties) | | |
| Supplier Codes of Conduct signed | 395 new CoCs (which covers 99% of our procurement volume) | 270 new CoCs (which covers 96% of our procurement volume) |
| | | |
| Proportion of direct procurement volume covered by ISO 14001 ²⁾ | 67% | 77% |
| CMRT coverage | 96% | 98% |

[1) Local suppliers are defined as those that are based in the same country as the purchasing OSRAM location.

2) Excluding capital spending on long-term capital assets, CAPEX.] 

3.5

Customer Relationships

[Our customers' requirements are changing significantly as technology shifts toward LED-based lighting systems. This transition is also resulting in a shift from a purely product-driven business to a modular and project-based business that is very different in character.

Digitalization is also becoming increasingly important within the sales and procurement channels, although we still have to contend with large differences in the degree of digitalization in specific industries and with specific customers.

Particularly in light of current changes in the industry, OSRAM strongly focuses on managing customer relationships in an efficient and targeted manner and in a way that takes advantage of the structures of the Group.

Guidelines, Responsibilities, Structures, and Processes

The operating activities covered by our business model are essentially organized into three business units: Opto Semiconductors (OS), Automotive (AM), and Digital (DI)

[» 2019 OSRAM Licht Group Annual Report, A.1.1.1 Business Model, p. 3](#). Each business unit's sales function is specifically geared to the requirements of its customers and markets and, as the direct interface to our customers, has oper-

ational responsibility for sales. This business model enables us to operate in the relevant markets in a targeted and market-oriented manner.

The Global Sales Excellence function was established in fiscal year 2018 in order to make sales processes and structures more efficient. It coordinates and implements Company-wide initiatives and projects as well as measures that are applicable to all business units. The head of Global Sales Excellence reports directly to the Chairman of the Managing Board.

OSRAM attaches great importance to obtaining regular and structured customer feedback on matters such as the satisfaction and loyalty of the customers involved. We continuously incorporate this feedback into the improvement of our processes and structures. About every two years, a worldwide customer survey on the relevant customer touchpoints with OSRAM is carried out for all business units.

OSRAM CONTINENTAL only commenced operations in summer 2018, so the plan is to carry out a survey of its customers' satisfaction levels at a later point in time.

Objectives

One of our primary sales goals, in addition to winning new customers by breaking into new markets, is to further expand business with existing customers and to strengthen existing customer relationships so that together we can develop new business opportunities. Since fiscal year 2017, we have been using the Customer Loyalty Index (CLI) to

• [GRI Index](#)
102-43

 [Page <61>](#)

measure quality in this area. The CLI is calculated on the basis of responses to questions posed in the biannual customer survey regarding overall satisfaction and likelihood of recommendation and can lie within a range of 0 to 100. With OSRAM currently in a phase of transformation, we strived to maintain the CLI score in fiscal year 2019 at the very high level of 81 that we had achieved in the previous customer survey in fiscal year 2017. It was also once again our goal to outperform our best competitors in the relevant KPIs.

In order to continue being able to serve our customers in ever-changing sales channels while at the same time reaping efficiencies in the sales process, it was our goal in fiscal year 2019 to set up a new B2B sales portal (online ordering system for corporate customers) as part of our Next Generation Sales corporate program as well as a new customer relationship management (CRM) system to help us manage customer relationships in a targeted and efficient manner. We would like to use the introduction of the new B2B sales portal to significantly increase the proportion of our revenue that is generated online and to systematically build on our objectives. The intention is to greatly simplify the online purchasing process for our customers and to provide greater transparency with regard to products, variants, and availability, etc. CRM is being introduced in part to pool sales-related information and to make this readily available in a user-friendly system.

Because of its customer and production structure, OSRAM CONTINENTAL is not currently part of Next Generation Sales. The customers of OSRAM CONTINENTAL are already individually served by a dedicated key account management system.

Action Taken, Results, and Performance Indicators

In fiscal year 2019, we integrated the Global Sales Excellence function, which had been established in fiscal year 2018, even more closely into the operational sales units and increased the focus on sales structures. Our objective is for this to have a positive impact on our customer relationships in what is a challenging market environment. For example, new ABC customer segments were defined in the sales organization of several business units and corresponding service catalogs were implemented.

We made particularly good progress with the projects related to the introduction of the B2B sales portal and CRM, with roll-out of the new sales support software having commenced at the end of September 2019.

The overall implementation and refining of the system—as well as the related processes—will last around two years and is being carried out using an agile method.

In fiscal year 2019, OSRAM once again conducted a worldwide survey of customer satisfaction and loyalty. Once the survey has been completed and the results analyzed, the business units define measures specific both to particular customers and customers generally, and monitor their implementation. The survey is submitted to the OSRAM Managing Board for approval, which is informed on a case-by-case basis of the results and the action taken by the business units. At 81 out of a possible 100 points, OSRAM was able to maintain its CLI score at the very high level achieved in 2017.]

Customer satisfaction

(continuing operations, excl. OSRAM CONTINENTAL)

| | 2017 (last survey) | 2019 | Target 2019 |
|--|-----------------------|------|-------------|
| Customer Loyalty Index (CLI) ¹⁾ | 81 | 81 | ≥ 81 |
| Range (minimum) | 0 | 0 | |
| Range (maximum) | 100 | 100 | |
| Best competitors' average ²⁾ | 65 | 68 | |

[1) The CLI is calculated from the evaluation of satisfaction and the recommendation readiness of the customers. The evaluation is done by the customer during the survey using a 11-point scale (0 to 10). The rating is transformed to a scale from 0 (minimum) to 100 (maximum). Indicated is the average value of the customer ratings.

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

Customer relationships

(continuing operations)

| | 2017 | 2018 | 2019 |
|--------------------------------------|-------|-------|-------|
| Sales employees (in thousand FTEs) | 2.3 | 2.1 | 2.0 |
| Share of revenue of top 50 customers | 64.8% | 64.9% | 60.2% |



4 . 0

Sustainable Products

OSRAM is undergoing a transformation from a lighting manufacturer to a high-tech photonics company. In addition to lighting, we are increasing our focus on sensors, visualization, and light-based treatments. Our products are addressing global challenges such as climate change, resource scarcity, and urbanization, while also adding value to our customers' businesses.

4 . 1

Added Value for Customers

OSRAM's energy-efficient products and solutions are helping to mitigate climate change. Lighting offers excellent opportunities for reducing greenhouse gas emissions. This is because artificial lighting accounts for around 15% of global power consumption and nearly 5% of greenhouse gas emissions. According to the United Nation's [» United for Efficiency \(U4E\)](#) environmental initiative, if the whole world were to switch to energy-efficient lighting it would lower CO₂ emissions by 390 million metric tons a year and save around US\$50 billion in annual energy costs.

However, the many new possibilities for LED lighting in combination with sensors and digital control are also paving the way for applications whose benefits extend well beyond energy savings. For example, OSRAM is offering innovative products and solutions in which the color and intensity of light adapts dynamically to the needs of people (human-centric lighting). This can be used to enhance well-being in the workplace or to raise levels of attention in learning environments or hazardous situations. Our lighting solutions are already making a contribution to safety in public spaces and on our roads—for example by means of intelligent dimming.

We are also working closely with the automotive industry on lighting solutions and sensor systems for self-driving vehicles, which will be key to addressing the growing traffic problems in major urban centers. A further future-focused application is plant lighting in which the spectrum of light that illuminates the plants is dynamically adjusted to optimize yield. It is used in urban farming, for example, to provide fresh plant products for expanding mega cities.

These examples demonstrate how OSRAM is transforming itself into a supplier of complete systems and digital platforms that can manage light, indoor climates, and irrigation in an intelligent way. We can add considerable value for our customers through such applications. But we will only be able to achieve this if we successfully manage the topics that are addressed in this chapter. In the following section, we will explore the ways in which OSRAM is going about this.

4 . 2

Innovation Management

OSRAM has always been driven by innovation. The transformation it is currently undergoing from a lighting manufacturer into a leading high-tech photonics company means that innovations and how they are managed* are now even more important to the business.

Guidelines, Responsibilities, Structures, and Processes

Guidelines on product lifecycle management and project management help the Company to adhere to quality criteria, regulations, time frames, and budgets in the development of products and in innovation activities. A software development guideline was added in fiscal year 2019 to cater to the growing demand for software. Our guidelines are designed in such a way that they provide the necessary framework but do not obstruct flexible, agile practices that reflect changing market demands.

The Chief Technology Officer (CTO) is responsible for the innovation and technology strategy and the management of development activities. The corporate venture capital unit, Fluxunit, can provide support for innovations developed outside the Company—preferably by start-ups—that tie in with OSRAM's strategy.

Another key aspect of the strategic management of our portfolio is to terminate projects and fields of activity that are unlikely to yield success before too much time and money have been invested. A stage-gate process incorporates regular reviews of the commercial and technical factors that determine the viability of the product in question.

We collaborate with a range of commercial partners and universities in order to optimize the efficiency of our innovation activities. This includes industry alliances, publicly funded collaborative projects to evaluate future technologies with uncertain economic prospects, bilateral partnerships in which complementary areas of expertise are employed to come up with shared solutions, and standardization committees that safeguard the functionality of systems and interoperability.

We protect our innovations at the earliest possible stage by means of patents and other industrial property rights. Strategic cross-licensing agreements and additional contracts on patent utilization with other players in the lighting industry help to secure our leading position in the lighting market

[» 2019 OSRAM Licht Group Annual Report, A.1.1.2](#)

[Research and Development \(R&D\), p. 4.](#)

Objectives, Action Taken, and Results

The following activities in fiscal year 2019 are particularly notable with regard to sustainability:

— **Energy efficiency of LEDs:** One of the primary development goals for LEDs is to continually improve energy efficiency. Enhancing the light output of phosphors

used in white LEDs is key to this. The business unit Opto Semiconductors (OS) made significant advances here in fiscal year 2019. In the field of traditional phosphors, substances with a greatly reduced spectral width were developed. Furthermore, quantum dot phosphors were used for the first time in an LED product. They were manufactured by the company Pacific Light Technologies, which OSRAM acquired in 2018. In both of these examples, the narrower line width of the phosphor has significantly improved efficiency, particularly in LEDs with a high light quality.

— **Research project:** The publicly funded project BlauLas was completed in fiscal year 2019. This collaborative initiative, which drew on the expertise of our business unit OS, Coherent/DILAS, Laserline, and the Max Born Institute in Berlin, developed high-power laser bars in the blue spectral range with an output of 100 watts and an efficiency of up to 46%. These lasers can be used in materials machining to substantially improve the speed and quality of copper welding processes while also reducing the amount of energy that is consumed.

— In the **smart building segment**, the business unit Digital (DI) significantly enhanced its SiteWorx application. Industrial customers can now use the platform to monitor and measure the state of their facilities and consumption levels, for example in terms of water, gas, electricity, compressed air, and process heat. This allows customers to implement and keep an eye on their sustainability and efficiency goals.

Extensive up-to-date information on our R&D projects is available on our website [» www.osram.com/press](#). For further R&D success stories, see [» 2019 OSRAM Licht Group Annual Report, A.1.1.2 Research and Development \(R&D\), p. 4.](#)

4 . 3

Impact Measurement

We strive to offer products that generate economic added value while also making a contribution to dealing with global challenges [4.1 Added Value for Customers, p. 27](#). In 2017, in order to gauge the added value that we provide for society, the Responsible Business & Sustainability department and Innovation department set up a concept for impact measurement with the goal of being able to methodically measure the impact of various technologies on the environment and society.

Here are some examples from the wide-ranging field of impact measurement that we implemented in fiscal year 2019:

- We focused on our impact on climate change during the process of devising a climate strategy in fiscal year 2019. The objective is to have a climate strategy with medium and long-term targets for the reduction of CO₂ emissions attributable to our own production activities and, looking further ahead, to our upstream and downstream supply chain as well [5.3 Greenhouse Gases and Climate Change, p. 36](#), and www.osram.de/climate-management.
- The corporate Procurement department assesses potential negative impacts associated with the purchase of services and substances, for example by analyzing our procurement volume with regard to social risks [7.1 Respect for Human Rights, p. 60](#).
- Every year, a human rights workshop is held with internal stakeholders with the aim of assessing risks and preventing human rights violations. In fiscal year 2019, we also completed the integration of potential human rights violations into the risk management system [7.1 Respect for Human Rights, p. 60](#).
- We have prepared lifecycle analyses for selected OSRAM products in order to better assess their impact on the environment. We have used these analyses to examine the environmental aspects and potential environmental impacts of specific products over the entire lifecycle. They highlight the level of energy consumption and therefore the environmental impacts in the different phases [5.2.2 Impacts in the Product Lifecycle, p. 36](#).

by the Civil Society in Numbers (ZiviZ) within Stifterverband and the Fraunhofer Institute for Industrial Engineering IAO's Center for Responsible Research and Innovation (CeRRI). We are also active in the SDGs and Sustainability Task Force of the German Electrical and Electronic Manufacturers' Association (ZVEI) and the Digitalization and Sustainability Task Force of the Association for Information Technology, Telecommunications and New Media (BITKOM). Although these initiatives focus on different topics, all of them tie in with our core objective of systematically analyzing the impact of our activities and making this impact transparent and manageable through collaborative approaches.

(P) [Page <60>](#)

(P) [Page <27>](#)

(P) [Page <60>](#)

(P) [Page <36>](#)

(P) [Page <36>](#)

* Participation in the initiatives/working groups mentioned here relates to the OSRAM Group, excluding OSRAM CONTINENTAL.

4 . 4

Product Safety and Quality

[OSRAM strives to offer a high level of quality, safety, and reliability in its products and solutions. The Company's reputation plays a key role in ensuring that our business remains successful over the long term. Our customers in the automotive industry set particularly high standards that must be upheld in order to retain their business.

The lighting market is undergoing constant technological change and is not globally homogeneous. Regulations regarding product safety are often specific to individual countries. In order to bring our products to market quickly while also complying with all rules and regulations, we need to coordinate these requirements at global level and take them into account at an early stage.

Guidelines, Responsibilities, Structures, and Processes

We are committed to complying with all legal requirements, standards, and norms relating to products and their safety, including labeling, that apply in the individual regions and countries in which we operate, and to implementing changes in good time. Product safety at OSRAM starts with product

development; it plays a role in the procurement and production process, and is a key aspect for our customers during the product lifecycle.

At Managing Board level, responsibility for product safety and quality lies with the Chief Technology Officer (CTO), who has assigned the relevant tasks and managerial authority to the head of the corporate Quality Management department. The corporate Quality Management department is responsible for setting up and maintaining a quality management system, for issuing regulations that apply across the Group, and for regularly monitoring compliance with these policies. Our core practices are described in the quality manual and quality policy and are publicly available. The regulations and processes cover, for example, product safety, product development, and the handling of defective products as well as the corresponding escalation steps. Operational responsibility for implementing statutory and internal rules regarding product safety and quality lies with the CEOs of the individual business units. The Quality Management department reports directly to the CTO on significant developments regularly. The CTO is also informed immediately of any incident that has been classified as a critical quality issue by the responsible business unit.

Significant developments and critical issues at OSRAM CONTINENTAL are reported to the CEO, who reports to the shareholders via the Advisory Board.

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.

All products for the automotive sector are tested in accordance with defined schedules in our environmental simulation laboratories, which are accredited to DIN EN ISO/IEC 17025. Accreditation of the laboratories allows us to achieve compliance with global standards.

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 for our evaluation of potential product safety violations and of action plans to remedy such violations. As soon as any product safety risks are identified, appropriate processes are triggered to contain and resolve 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 so that deficiencies can be identified and corrected at an early stage, before customers are affected.

External environmental influences can have an impact on the characteristics and functions of our products. By testing product performance through accelerated aging and environmental simulations, we can identify how long the products should last as well as shortcomings in their design or components, and then initiate improvements before failures occur in actual use. We believe that high-quality products can only be realized if the early stages of their development include an analysis of safety requirements and an evaluation of expected product quality based on environmental simulations. Avoiding defects before they occur is essential for OSRAM.

Objectives

We strive to sell our products globally. We therefore endeavor to identify new legal requirements, standards, and norms that are relevant to our business in a timely and routine manner and apply them to our internal product safety specifications.] ○

Furthermore, we want to ingrain the key principles of our quality culture—‘Learn from mistakes. Be proactive. Never stop improving.’—throughout the organization and in the mindset of our employees. So it is important that we follow

defined processes in a structured manner and that we consistently adhere to these processes and work to improve them.

The quality of our products is a key criterion in our customers' satisfaction and therefore plays a key role in securing their loyalty, which at OSRAM is measured using the Customer Loyalty Index (CLI). The CLI targets and level of target attainment are reported under [3.5 Customer Relationships](#), p. 24.

Action Taken, Results, and Performance Indicators

[We had our processes and management systems recertified to ISO 9001 in fiscal year 2019. All locations supplying automotive customers were additionally certified to IATF 16949. Individual measures were taken at business unit level as well in order to further improve product quality and customer satisfaction.] ○

The programs are already proving effective: The number of customer complaints about the relevant products was reduced by a double-digit percentage figure. OSRAM also reduced the defect rate at our customers by a low double-digit percentage range in fiscal year 2019.

In order to improve the processes, the Company began to restructure them so that they form a complete flow extending across the organization (end-to-end). The result is a clearer picture of the purpose of sub-processes that need to be carried out in a particular order (chronologically/logically) in order to meet specific customer requirements.

[In fiscal year 2019, we succeeded in our goal of identifying new legal and regulatory requirements, standards, and norms in a timely and routine manner and applying them to our internal product safety specifications.

During fiscal year 2019, the Quality Management department received one notice of potential violations concerning the impact of a product line sold in North America on the health or safety of our customers and, as a result, initiated a recall of the products in accordance with the internal guidelines.] ○

(P) Page <24>



5 . 0

Environment and Climate Protection

As an industrial company, we consume natural resources and emit greenhouse gases during production. In order to fulfill our responsibility, we are committed to environmental management practices that conserve resources and to developing innovative, energy-efficient products.

5 . 1

Environmental Management

[By engaging in environmental management practices, we aim to meet the requirements of the law and the expectations of our customers and employees, of the capital markets, and of society, and also to contribute to the success of OSRAM's business. As regulation increases, so do the demands made of our environmental management system by a range of stakeholders [» 2019 OSRAM Licht Group Annual Report, A.1.1.4 Legal and Sector-specific Conditions, p. 6.](#)

Guidelines, Responsibilities, Structures, and Processes

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

The management team of OSRAM CONTINENTAL does not formally delegate responsibility for environmental protection and occupational health and safety to a department. The operational implementation is the responsibility of EHS management at OSRAM CONTINENTAL.

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, 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.

For example, all production facilities and the Group headquarters maintain an environmental management system certified to the international standard ISO 14001, while all European locations are also certified to the energy management system ISO 50001. As part of its environmental reporting, OSRAM collects data on energy consumption, CO₂ emissions, water consumption, and waste generation. The data covers more than 99% of our environmental impacts* and the locations at which a total of 89% of all our employees are based. These locations also calculate and report annual

figures for their volatile organic compounds (VOC) emissions and waste water volumes.

Every year, OSRAM sets specific annual targets for energy consumption, CO₂ emissions, water consumption, and waste generation. Progress in these areas is shown in the relevant sections of this report.

Senior managers implement specific measures at the individual manufacturing facilities. The corporate EHS department cooperates with government agencies and industrial associations on a variety of topics. It also regularly reviews implementation of the aforementioned guidelines at the locations by carrying out site visits, inspections, and internal audits.] ✓

5 . 2

Energy Efficiency

In the face of climate change, it is OSRAM's responsibility to optimize the energy efficiency of its business. Our largely LED-based portfolio means that we can also help to reduce emissions through the sale of energy-efficient products and solutions.

As an industrial company, OSRAM uses both primary and secondary energy, with electricity and natural gas the most important sources of energy. Of particular relevance are the production facilities, followed by the Group headquarters and larger development centers. Increasing the energy efficiency of our business helps to improve our cost position and therefore also our competitiveness.

In addition to these optimization efforts in our manufacturing operations, OSRAM products and solutions can also help to reduce our customers' energy consumption, related emissions, and energy costs. At the same time they can make a contribution to climate protection. Improving the energy efficiency of our products is therefore a key criterion in our customers' purchasing decisions and satisfaction.

5.2.1 Energy Consumption

OSRAM's Environmental Protection, Health, and Safety (EHS) department has the managerial authority to issue environmental protection guidelines, formulates guidelines that apply across the Group, and regularly checks that these are adhered to [5.1 Environmental Management, p. 33](#). Our business model dictates that responsibility for implementation of these central EHS guidelines lies with the business units themselves. Each business unit is also responsible for ensuring that its products are designed in an environmentally compatible way and that energy is used efficiently both in production and use.

To operate our production facilities, we generally utilize an energy mix that is both economical and environmentally friendly. OSRAM does not yet distinguish between renewable and non-renewable energy for measurement and reporting purposes. In Germany, however, we can report the amount of electricity that we obtain from renewable energy sources. Relative consumption targets are set annually at location level and aggregated into a specific global target (megawatt hours (MWh) electricity used per €1 million in revenue) for energy consumption using the budgeted figures for production and revenue. At Group level, OSRAM monitors and reviews progress toward the targets as part of the quarterly reporting cycle and the energy efficiency reviews conducted with the operational heads of the business units.

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. This includes assessment of regulatory requirements and of potential improvement measures.

(P) [Page <33>](#)

Objectives

Through its energy efficiency initiatives, OSRAM is striving for continual improvement at its locations.

We do not report on absolute targets due to our ambitions for long-term growth and the potential expansion of manufacturing capacity connected to this and due to our portfolios' shift toward products with greater vertical integration. Instead, we set our targets according to the ratio of total energy used in MWh to revenue earned. The specific metric used—MWh electricity used per €1 million in revenue—is therefore comparable over time.

The OSRAM Licht Group's target for fiscal year 2019 was 194 MWh per €1 million in revenue, slightly higher than the previous year's level of 191 MWh per €1 million in revenue. This reflected the further expansion of our semiconductor production locations, in particular. We are now achieving a greater, even if more energy-intensive, degree of added value here than in other business areas. The optimal energy efficiency of the new factories will only be reached at high volumes.

In the medium term, we aim to continually reduce the aforementioned energy consumption per €1 million in revenue

across the Group. This will require the current market environment for our core business to stabilize, so that we can run our production facilities at full capacity and with maximum energy efficiency.

Action Taken, Results, and Performance Indicators

At 703,600 MWh, OSRAM's energy consumption in fiscal year 2019 was slightly lower than the prior year. While consumption at our locations in Wuxi, China, and Kulim, Malaysia, was higher due to the expansion of production, the absolute KPIs were lower than the previous year at almost all locations. This is mainly due to scaled-down production following a drop in demand.

We again achieved energy savings in the fiscal year under review by means of a large number of efficiency measures at various locations. Here are some examples:

- In Monterrey, Mexico, small mobile air compressors were used instead of the energy-intensive central supply in production areas with low demand. Furthermore, loss of cold air from temperature-controlled areas was reduced through the use of air curtains.
- In Hillsboro, U.S.A., all the lighting in the main building was converted to a state-of-the-art LED lighting system.
- In Treviso, Italy, the vacuum supply was upgraded with variable speed driven (VSD) vacuum pumps, significantly increasing efficiency.
- In Foshan, China, the cooling water system was redesigned so that fewer pumps are needed.

- In Penang, Malaysia, the air circulation provided by the air conditioning system in the test labs was optimized, and the efficiency of cooling facilities in the production area was increased through technical measures.
- We also implemented the first efficiency measures at our newest location in Kulim, Malaysia, such as fine-tuning the settings of the air conditioning system. Where possible, we have also lowered the temperature and humidity requirements.

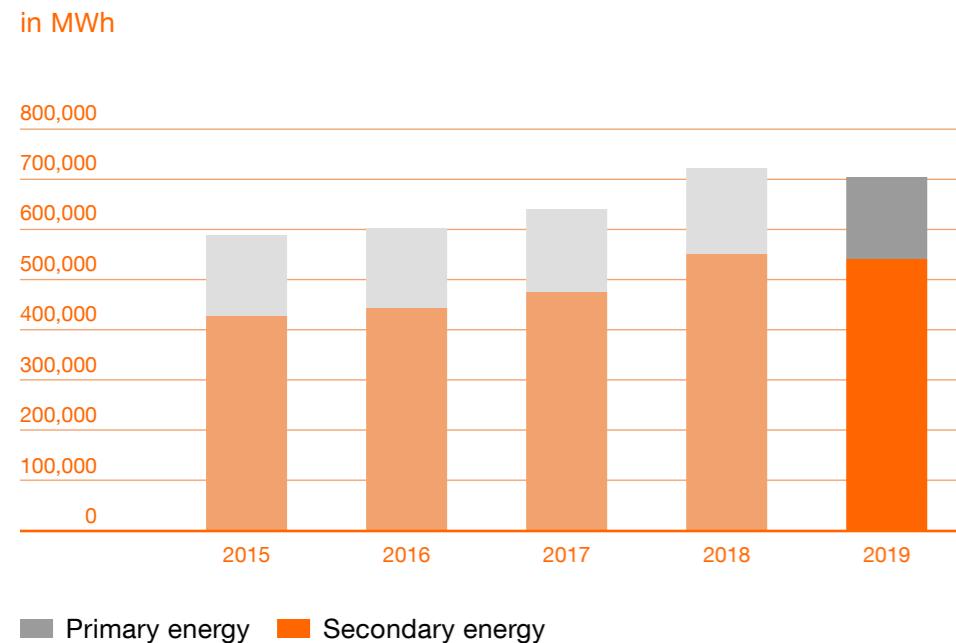
While absolute consumption fell slightly, a figure of 203 MWh per €1 million in revenue in fiscal year 2019 means we missed our target for energy usage in relation to revenue by around 5%. This increase is due to the aforementioned lower capacity utilization at our production locations compared to the previous year. This is particularly the case at our semiconductor locations with high infrastructure requirements (air conditioning), which has to be maintained irrespective of the production volume.] ☑

Energy consumption

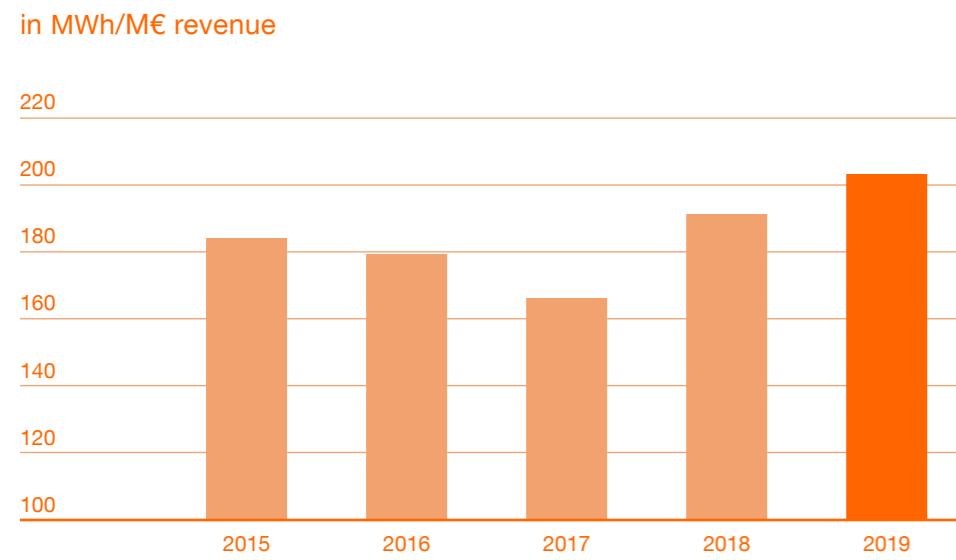
(continuing operations) in MWh

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|----------------|----------------|----------------|----------------|----------------|
| Primary energy | 159,300 | 160,600 | 166,800 | 171,000 | 163,600 |
| Natural gas | 130,200 | 132,600 | 137,100 | 138,000 | 133,500 |
| Liquefied petroleum gas, diesel for on-site use, heating oil, hydrogen | 29,100 | 28,000 | 29,700 | 33,000 | 30,100 |
| Secondary energy | 427,000 | 442,100 | 473,200 | 549,700 | 540,000 |
| Electricity | 404,900 | 420,400 | 445,100 | 521,800 | 508,900 |
| of which share of renewable energies (%) | | | | 27 | 25 |
| District heating and steam | 22,100 | 21,700 | 28,100 | 27,600 | 30,800 |
| Renewable energy generated inhouse | | | | 300 | 300 |
| Total | 586,300 | 602,700 | 640,000 | 720,700 | 703,600 |
| Target for energy consumption in MWh per €1 million revenue | | | 181 | 187 | 194 |
| Energy consumption in MWh per €1 million revenue | 184 | 179 | 166 | 191 | 203 |

Absolute energy use



Specific energy use



Examples of how our products' energy efficiency has been improved can be found under [4.2 Innovation Management](#), p. 27.

5.2.2 Impacts in the Product Lifecycle

[We want to offer our customers transparency when it comes to improvements to the energy efficiency of OSRAM products. OSRAM conducts lifecycle assessments (LCAs) on selected products that are representative of product families and makes the results of these assessments, which are based on the ISO 14040 and 14044 environmental management standards, available to our customers and the public on the Company's website www.osram.com/lca. These activities cover the majority of OSRAM's product portfolio. Across all product families, it is evident that the phase of the lifecycle in which the product is being used by the customer has the greatest impact on the environment.

Less than 4% of energy consumption in main product groups is attributable to manufacturing, distribution, and disposal. Around 96% is accounted for by the usage phase. Reducing the amount of energy that is consumed when the product is being used therefore represents the most effective means of reducing the overall environmental impact [4.3 Impact Measurement](#), p. 29.]

5 . 3

Greenhouse Gases and Climate Change

[Climate change is a global challenge that also affects OSRAM. The direct and indirect greenhouse gas emissions that result from our use of energy contribute to climate change and mainly take the form of CO₂. Greenhouse gas emissions also occur in our upstream and downstream value chain.

OSRAM's Environmental Protection, Health, and Safety (EHS) department has the managerial authority to issue environmental protection guidelines, formulates guidelines that apply across the Group, and regularly checks that these are adhered to [5.1 Environmental Management](#), p. 33.

OSRAM bases its documentation and reporting on the recognized standard of the Greenhouse Gas Protocol (GHG) and the Task Force on Climate-related Financial Disclosure (TCFD) when recording CO₂ emissions under

- **Scope 1** direct emissions from the use of energy sources,
- **Scope 2** indirect emissions resulting from the use of secondary energy sources such as electricity or district heating, and
- **Scope 3** emissions that occur up or down the value chain that are attributable to the Company, as well as upstream and downstream in our products' lifecycle, e.g., emissions resulting from the use of our products.

(P) [Page <33>](#)

(P) [Page <29>](#)

(P) [Page <27>](#)

That is why we adopt both market-based accounting ('market-based'), using the vendor-specific emission factor, and location-based accounting ('location-based'), using the regional and national grid average, when reporting our Scope 2 emissions.

Measurements of energy consumption are used to manage efforts to reduce the above-mentioned Scope 1 and Scope 2 emissions. Absolute figures are documented at location level and, using the corresponding conversion factors, scaled in relation to revenue at global level.

Objectives

OSRAM sets itself annual targets for reducing the Scope 1 and Scope 2 (market-based) emissions caused by the Company. Consistent with our energy efficiency targets [>5.2 Energy Efficiency—Objectives, p. 34](#), we have also defined a specific target for reducing CO₂ emissions in relation to revenue. This reflects the Scope 1 and Scope 2 (market-based) emissions that are attributable to OSRAM in relation to revenue.

As our targets for CO₂ emissions and energy efficiency are linked, the changes mirror each other. The OSRAM Licht Group's target for fiscal year 2019 for combined Scope 1 and Scope 2 emissions was 72 metric tons per €1 million in revenue. It does not yet have any targets for Scope 3 emissions.

Since only a few locations emit volatile organic compounds (VOCs) and only in small amounts, we are striving to achieve a general reduction without any specific targets.

Action Taken, Results, and Performance Indicators

At 268,900 metric tons, CO₂ emissions (Scope 1 and 2, market-based) in fiscal year 2019 reached approximately the same level in absolute terms as in the prior year, although total energy consumption fell slightly [>5.2 Energy Efficiency, p. 34](#). This is predominantly attributable to expansion at the locations in Asia—particularly in Kulim, Malaysia and Wuxi, China—and the local, more carbon-intensive electricity mix.

The measures taken to reduce our impact on the environment included the lowering of energy consumption by raising efficiency at the individual locations. The examples provided in [>5.2 Energy Efficiency, p. 34](#) alone have resulted in savings of 2,800 metric tons of CO₂. In addition, targeted efforts were again made in Germany to purchase energy obtained from renewable sources. During fiscal year 2019, around 127,900 MWh (previous year: 140,500 MWh) of the electricity used at OSRAM in Germany came from renewable energy sources. This avoided 54,300 metric tons of CO₂ emissions (previous year: 62,900 metric tons). As consumption in Germany dropped more sharply than in Asia, the share of renewable energies in the overall use of power fell to 25% (previous year: 27%) [>5.2 Energy Efficiency, table 'Performance Indicators—Energy Efficiency \(Continuing Operations\), p. 35](#).

Due to the aforementioned reasons relating to the electricity supply and the issues relating to energy consumption outlined in [>5.2 Energy Efficiency, p. 34](#), the specific CO₂ target was missed by 8%, with the final figure reaching 78 metric tons per €1 million in revenue.

In fiscal year 2019, we reported figures for Scope 3 once more. These include greenhouse gas emissions attributable to the upstream and downstream value chain. In the upstream value chain purchased goods and services and capital goods are taken into account. Thereby, a model that is recognized within the industry is used to estimate the emissions. For emissions from upstream transport and distribution and from business travel, we obtained the underlying data from our business partners and service providers.] 

 [Page <34>](#)

We consider the use of sold products relevant in the downstream value chain. The amount of emissions produced during operation is heavily dependent on how the electricity used was generated, and we have only limited influence over this. The figures are based on an internal model that helps us to estimate, in absolute terms, how many metric tons of CO₂ were saved by our low-carbon products and our emission avoidance solutions.

 [Page <34>](#)

OSRAM also engages with these issues in the dialog forum 'Wirtschaft macht Klimaschutz' (Business and Climate Protection), an initiative of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

 [Page <35>](#)

CO₂ emissions

(continuing operations) in metric tons

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|---------------------------------|----------------|----------------|----------------|------------------|
| GHG Scope 1 emissions | 32,000 | 31,600 | 30,500 | 31,000 | 30,200 ✓ |
| Natural gas | 28,200 | 28,300 | 27,600 | 27,800 | 26,800 ✓ |
| Liquefied petroleum gas, diesel for on-site use, heating oil | 3,800 | 3,300 | 2,900 | 3,200 | 3,400 ✓ |
| GHG Scope 2 emissions (market-based) | 221,400 | 225,600 | 205,700 | 237,200 | 238,700 ✓ |
| Electricity | 215,700 | 219,800 | 199,400 | 230,900 | 231,000 ✓ |
| District heating and steam | 5,700 | 5,800 | 6,300 | 6,300 | 7,700 ✓ |
| GHG Scope 2 emissions (location-based) | | | 265,400 | 286,200 | 279,600 ✓ |
| Total GHG Scope 1 and 2 emissions (market-based) | 253,400 | 257,200 | 236,200 | 268,200 | 268,900 ✓ |
| Target for metric tons of CO ₂ emissions from own activities per €1 million revenue | | | 71 | 72 | 72 ✓ |
| Metric tons of CO₂ emissions from own activities (Scope 1 and 2) per €1 million revenue | 79 | 76 | 61 | 71 | 78 ✓ |
| GHG Scope 3 emissions¹⁾ | | | | | |
| Purchased goods and services | | 1,098,600 | 1,099,000 | 1,022,900 | 795,300 ✓ |
| Capital goods | Not yet systematically recorded | 86,500 | 174,900 | 153,100 | 55,300 ✓ |
| Upstream transport and distribution ²⁾ | | | 81,000 | 104,700 | 81,000 ✓ |
| Business travel ³⁾ | | | 18,400 | 15,100 | 11,100 ✓ |
| Use of sold products | | | 22,000,000 | 19,100,000 | 16,100,000 |
| Absolute savings in metric tons of CO ₂ , resulting from the use of OSRAM products ⁴⁾ | | | | | |
| Low-carbon products | Not yet systematically recorded | 1,490,000 | 1,327,000 | 937,000 | |
| Emissions avoided | | 4,940,000 | 4,495,000 | 4,284,000 | |
| VOC emissions⁵⁾ in metric tons | 29 | 29 | 25 | 29 | 24 ✓ |

[1] Upstream Scope 3 data has not included discontinued operations since 2018.

2) Data on CO₂ emissions generated from transport paid for by OSRAM is based, wherever possible, on information from our forwarding agents. In the Opto Semiconductors Business Unit, no reliable information is available for land-based transport in Malaysia and China and so this is not included in the reporting. In the other business units, estimates for the Latin America region as well as for road transport in Asia are made using average figures for comparable regions. In the EMEA region, we only record data for transport that is paid for by OSRAM GmbH. Smaller units such as Traxon and Clay Paky are excluded from the reporting. Overall, based on an estimate of freight costs, we judge that, despite the aforementioned limitations, more than 90% of the greenhouse gas emissions resulting from our transport activities are included in the calculation.

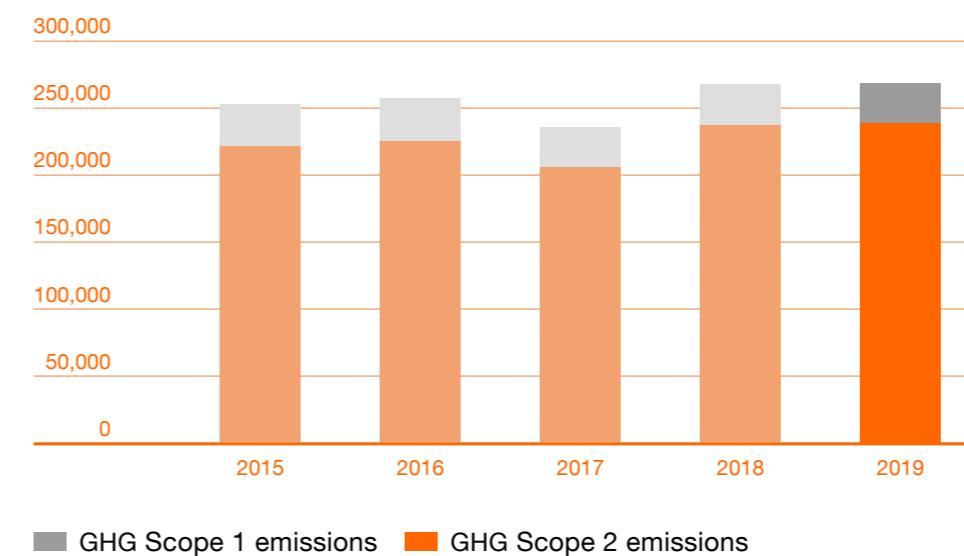
3) Emissions generated by business travel encompass worldwide flights, rail travel in Germany, and trips made in hire cars and leased vehicles. We obtain the data on European hires from our hire car partners and we make qualified estimates for the rest of the world, which for vehicle hire is mainly the U.S.A. OSRAM mostly leases vehicles in Germany. An estimate for vehicles leased outside Germany was added to create a worldwide figure, which we then extrapolated over the fiscal year as a whole.

4) Downstream Scope 3 data and the savings for products have not included discontinued operations since 2019.

5) OSRAM locations are only included in VOC reporting if they are required by local laws or regulations to register as an emitter of VOCs.] ✓

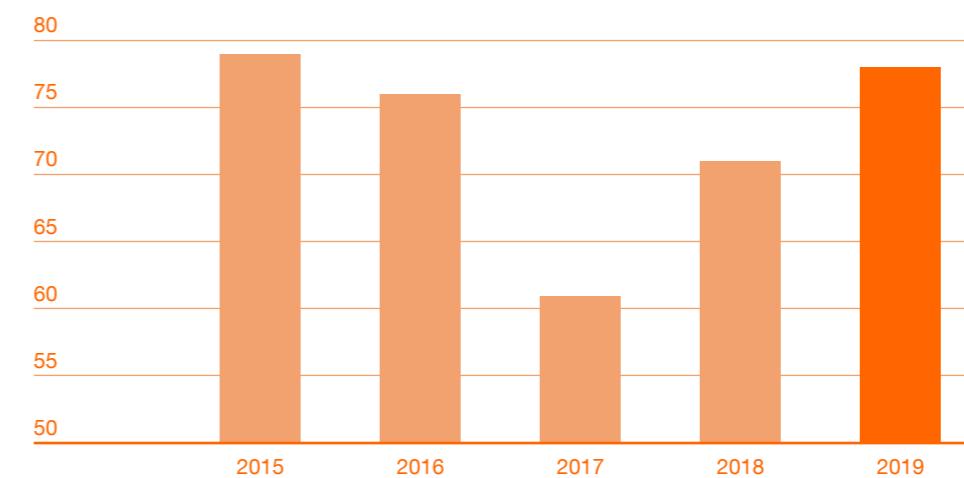
Absolute CO₂ emissions

in metric tons



Specific CO₂ emissions

in metric tons/M€ revenue



[OSRAM was assessed by CDP, the world's largest climate protection ranking scheme, for the first time in fiscal year 2019 (score: C—‘awareness’ of climate change) and took part in the CDP survey for the second time.

A concept for devising an OSRAM climate strategy with longer term targets was developed in the past fiscal year. It includes an initial focus on emissions from our own business activities; in the medium term it will also cover emissions from the upstream and downstream supply chain. The share of renewable energy purchased also plays a role in achieving our reduction targets.] ⓘ

5 . 4

Water

[Water is an important resource for OSRAM that is used for cooling in production, as a processing medium in the manufacture of LEDs, and for sanitary purposes. Rationing water at our locations would compromise our productivity.

In order to minimize our impact, we manage water use at all locations with the aim of conserving water resources and keeping water consumption as low as possible. We take water mainly from the public drinking water supply and from groundwater. We are aware of sensitive sources and reservoirs that are close to our production sites and these are protected as appropriate.

In order to proactively identify potential issues with the availability of water, we perform an annual risk analysis on our water requirements at our locations using the Aqueduct Water Risk Atlas supplied by the World Resources Institute ➤ www.wri.org/aqueduct. The analysis looks at the levels of water withdrawal as well as the type and amount of waste water discharges at the locations.

Data on the amount of waste water produced at the individual locations is collected every year. Most of this is discharged as industrial or sanitary waste water into the sewage system or into surface water.] ⓘ Where quality has been compromised by our production processes, we purify the water

before it is discharged. This process is in compliance with the relevant legislation. All locations have the necessary licenses from government authorities. Most of the groundwater we use is returned in a chemically unchanged form. Some of the waste water has to be considered as hazardous waste and so has to be professionally treated by external companies. The remaining waste water is released into the atmosphere by evaporative coolers.

Objectives, Action Taken, Results, and Performance Indicators

[As in the case of energy consumption, the consumption and withdrawal of water are recorded locally as absolute figures and then scaled to revenue at regional and global level. Location-specific targets for the reduction of water use in production are based on action plans set out in the environmental protection programs and in some cases are aligned to production output. Locations that use water only for sanitary purposes have absolute reduction targets that take into account increases or decreases in headcount.

The global target for specific water consumption for the reporting period of 828 cubic meters per €1 million in revenue was higher than both the target figure for the previous fiscal year (743 cubic meters per €1 million in revenue) and the figure that was actually achieved for that year (767 cubic meters). It was increased to take account of the planned expansion of our semiconductor manufacturing facilities. Specific water consumption in fiscal year 2019 stood at 868 cubic meters per €1 million in revenue. The global target was therefore missed by 5%, mainly because the underutilization of capacity at the production sites was greater than expected.

There are no specific targets for the discharge of waste water. Nevertheless, key figures are recorded and monitored within the framework of EHS management.] ⓘ Around 22% of all the water withdrawn in fiscal year 2019 was attributable to losses in waste value streams or evaporation into the atmosphere.

[Release of chemically unchanged cooling water has to be in accordance with official regulations and therefore monitoring is stricter and uses a higher quality of data than in the other discharge paths. During the reporting year, water quality checks carried out for the local authorities did not identify any breaches of officially prescribed thresholds.

OSRAM does not currently regard the availability of water at any of its locations as critical. However, the regions in China and Malaysia where our semiconductor production facilities are located are expected to see high and continually growing demand for water from 2030 onward. We will continue to monitor developments.

At the Foshan location in China, OSRAM completely refurbished and relaid the pipe systems used for firefighting so that it can save 45,600 cubic meters of water every year.

OSRAM's reporting of relevant data was assessed by the CDP Water Security Initiative for the first time in fiscal year 2019 (score: C—'Awareness') and took part in the CDP survey regarding water for the second time.] ⓘ

Water consumption

(continuing operations) in cubic meters

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|------------------|------------------|------------------|------------------|------------------|
| Local-authority water supply | 1,884,000 | 1,993,300 | 2,088,900 | 2,568,500 | 2,726,200 |
| Groundwater from own supply | 365,300 | 355,000 | 366,800 | 305,000 | 269,600 |
| Other water | 9,400 | 15,400 | 18,400 | 18,200 | 11,700 |
| Total | 2,258,700 | 2,363,700 | 2,474,100 | 2,891,700 | 3,007,500 |
| Target for water consumption in cubic meters per €1 million revenue | | | 697 | 743 | 828 |
| Water consumption in cubic meters per €1 million revenue | 708 | 701 | 642 | 767 | 868 |

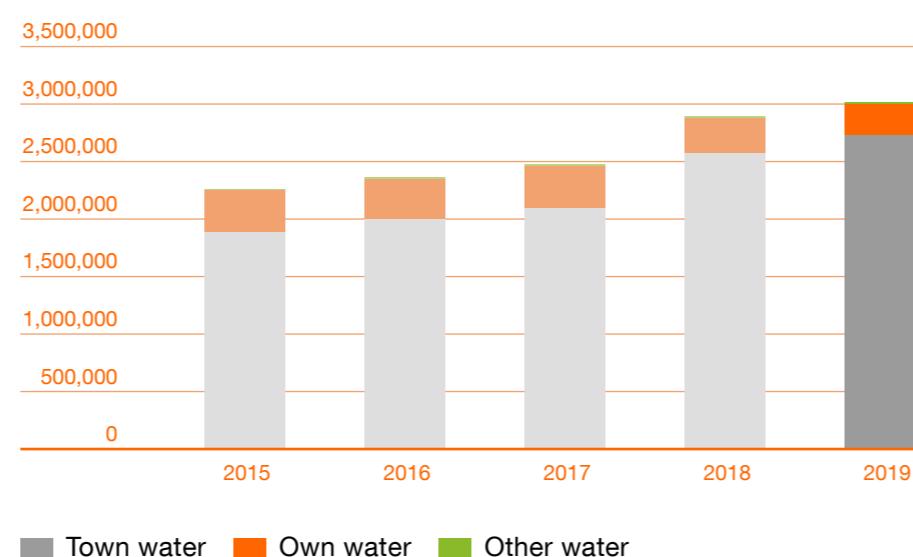
Waste water by destination

in cubic meters

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---------|---------|---------|------------------|------------------|
| Into public sewers as industrial waste water | | | | 1,035,600 | 1,194,400 |
| Into public sewers as sanitary waste water | | | | 516,900 | 470,000 |
| Into saline surface water as industrial waste water | | | | 642,800 | 486,800 |
| Into non-saline surface water as industrial waste water | | | | 35,100 | 32,500 |
| Into the groundwater as chemically unchanged waste water from cooling processes | 269,100 | 286,300 | 266,700 | 194,400 | 168,500 ⓘ |
| Total | | | | 2,424,800 | 2,352,200 |
| Consumption – through evaporation, disposal as waste, other losses | | | | 446,900 | 655,300 |

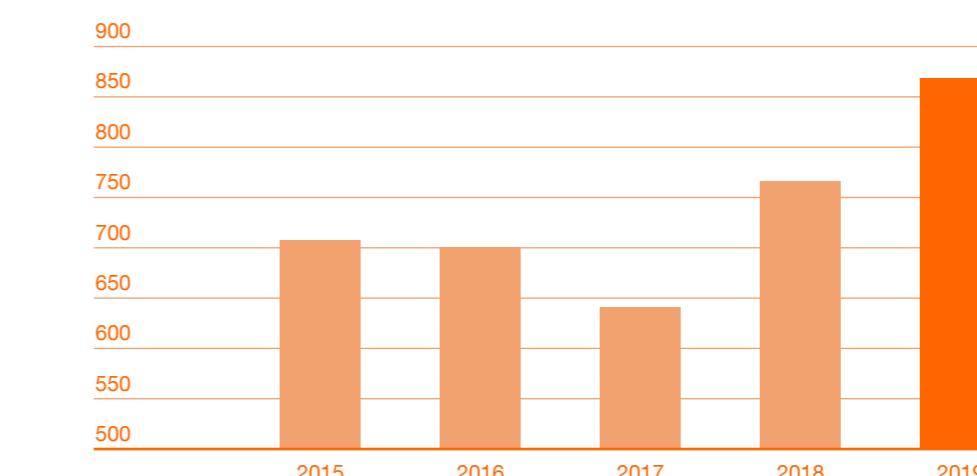
Absolute water consumption

in cubic meters



Specific water consumption

in cubic meters/M€ revenue



5 . 5

Waste

[OSRAM uses numerous substances in production that have an impact on people and the environment as a result of their procurement, transport, usage, and disposal. Our aim is for valuable raw materials to be recycled [›5.6 Raw Materials and Substances, p. 42](#), and [›5.6.3 Take-back and Circular Economy, p. 45](#), and for negative impacts on the environment to be minimized or avoided entirely. We follow the guiding principle at all our locations of avoiding waste in production or recycling the waste, or if neither is possible arranging for its professional disposal.

We record locally the amounts of material that are recycled or sent away for disposal. A distinction is drawn in these categories between hazardous and non-hazardous waste. Reduction of the waste requiring disposal is a priority. Employees who work with waste are trained in the locally applicable regulations. The locations are set targets that are based either on the output of the factory or on the annual production forecast. Specific revenue-related targets are defined at regional and global level.

Objectives, Action Taken, Results, and Performance Indicators

Our overarching objective is to use the resources in our value chain efficiently so that we can minimize the volume of waste that is produced at our locations. We had set ourselves a specific target for fiscal year 2019 of 1.95 metric tons of waste for disposal per €1 million in revenue, which is close to the level that was achieved in the prior year.

The actual result of 1.64 metric tons of waste for disposal per €1 million in revenue not only met this specific target but clearly exceeded it. There were also significant falls in the absolute volumes recorded across all categories (hazardous and non-hazardous waste, waste for disposal and for recycling). This was due to a range of factors. Unlike for the energy and water environmental criteria, for example, there was no decline in output efficiency for waste, despite the fact that capacity at our production sites was underutilized. And at a number of locations, particularly Penang, Malaysia, we were able to substitute the previous estimates with actual measurements. Because these estimates had been too high, this led to a significant correction in the figure that had been assumed.

Where waste cannot be avoided, we endeavor to have it recycled rather than disposed of. In Regensburg, Germany, for example, processes have been changed so that filters containing germanium residues are no longer disposed of as hazardous waste, but are recycled by specialist companies. The recovered germanium is then made available to our supplier as a raw material for germanium wafers. This has

reduced not only our volume of waste but also our carbon footprint in the supply chain. The production of raw germanium is extremely energy-intensive and associated with high CO₂ emissions [›5.3 Greenhouse Gases and Climate Change, p. 36](#). This process began in summer 2019 and the first wafers containing recycled germanium are expected back in Regensburg in early 2020.

Professional service providers recycle and dispose of our hazardous waste with the necessary care and in accordance with local regulations. We have established an internal monitoring system for the transport of hazardous goods, whether waste or products. In the reporting year, we received no notification of any failure to comply with relevant laws and requirements.]

(P) [Page <36>](#)

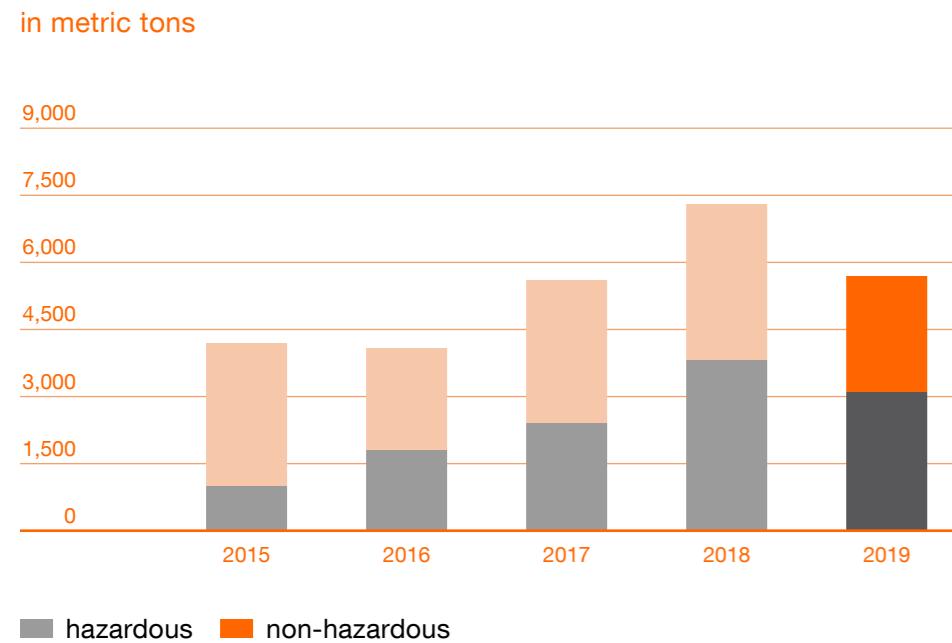
(P) [Page <42>](#)
[Page <45>](#)

Waste

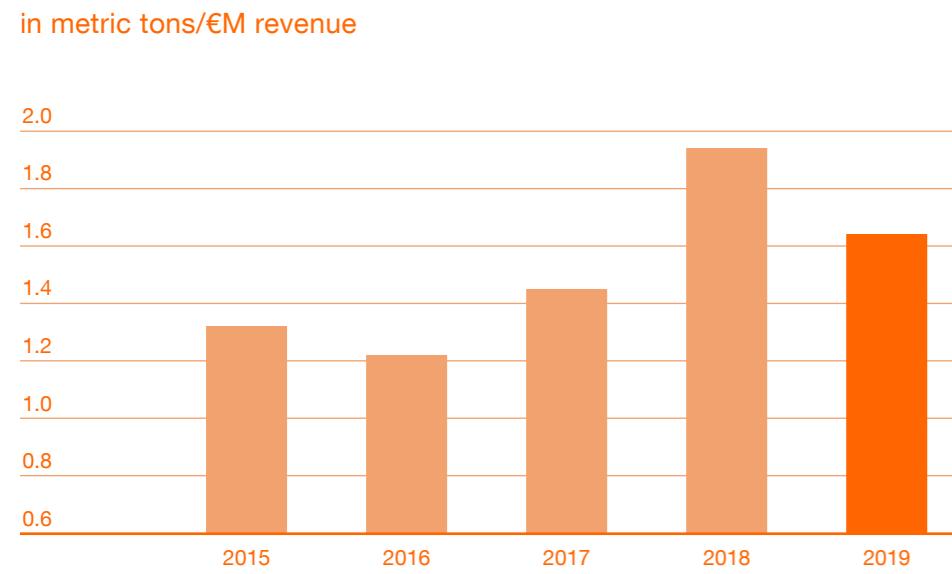
(continuing operations) in metric tons

| | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|-------|-------|-------|-------|-------|
| Waste for disposal | | | | | |
| hazardous | 1,000 | 1,800 | 2,400 | 3,800 | 3,100 |
| non-hazardous | 3,200 | 2,300 | 3,200 | 3,500 | 2,600 |
| Total | 4,200 | 4,100 | 5,600 | 7,300 | 5,700 |
| Target for waste for disposal in metric tons per €1 million revenue | | | 1.31 | 1.75 | 1.95 |
| Waste for disposal in metric tons per €1 million revenue | 1.32 | 1.22 | 1.45 | 1.94 | 1.64 |
| Waste for recycling | | | | | |
| hazardous | 1,500 | 1,200 | 1,400 | 1,400 | 1,700 |
| non-hazardous | 7,400 | 7,700 | 7,100 | 7,900 | 6,700 |
| Total | 8,900 | 8,900 | 8,500 | 9,300 | 8,400 |

Waste for disposal



Specific waste for disposal



5 . 6

Raw Materials and Substances

[A wide range of raw materials and substances are used in the manufacture of our products, some of which remain in the products. Furthermore, the OSRAM portfolio of products requires the use of substances that could be classified as conflict minerals due to their origin, for example from the Democratic Republic of Congo and neighboring countries

[7.1 Respect for Human Rights, p. 60.](#)

OSRAM focuses on monitoring and reducing the use of hazardous and critical substances [5.6.1 Critical Substances, p. 43](#), and generally we believe that resource-efficient use of substances is important, as this has a positive impact on the environment, reduces the cost of our products, and makes them more acceptable to customers.

We work on the basis that it should be possible to market our products anywhere in the world. The raw materials and substances used in the manufacture of our products—and remaining in them—are subject to ever-increasing regulation, which is an important factor for OSRAM in its various areas of business] [» 2019 OSRAM Licht Group Annual Report, A.1.1.4 Legal and Sector-specific Conditions, p. 6.](#) We anticipate this regulation by keeping a close eye on the market

and by participating in trade associations [3.1.4 Memberships and Political Engagement, p. 15.](#)

(P) [Page <15>](#)

Our activities in various trade associations mean that we find out in good time about new and anticipated regulation and are able to make plans accordingly. This regulation aims, among other things, to make it easier to recycle products, to avoid hazardous materials or to provide a framework for declaring them, and to safeguard and improve the level of protection offered to customers and the people who use our products [4.4 Product Safety and Quality, p. 30.](#) It is therefore essential that we are able to reliably obtain and communicate relevant information and declarations within the supply chain.

(P) [Page <30>](#)

Action Taken and Results

In accordance with our business model, responsibility for initiatives aimed at improving the use of substances lies mainly with the individual business units. Here is an example: Within the framework of the ORCA funding project of the German Federal Ministry of Education and Research, OSRAM is working with partners to develop alternatives to the use of rare earth elements in LED phosphors. This research is following various paths, which include substituting rare-earth-based phosphors with organic conversion phosphors and reducing the share of rare earths in rare-earth-based phosphors—partly by means of a chemically altered structure and partly through the combination of traditional rare-earth-based phosphors with organic compounds. For other examples, see [5.6.3 Take-back and Circular Economy, p. 45](#), and [4.2 Innovation Management, p. 27](#).

(P) [Page <60>](#)

(P) [Page <43>](#)

(P) [Page <45>](#)

[Page <27>](#)

[Our portfolio of products also requires the use of substances that are classified as conflict minerals due to their potential origin. We have put in place appropriate due diligence processes for procurement in order to properly discharge our responsibilities with regard to the protection of human rights [7.1.1 Conflict Minerals, p. 62.](#)

5.6.1 Critical Substances

In order to fulfill our ambition of selling our products globally, OSRAM applies the world's strictest regulations as a global standard when it comes to the substances used in its products and the associated declarations. We deviate from this approach in local markets only to a very limited extent but always comply with local law. The status of the availability of the necessary information and declarations can be included in the quarterly reporting and the management review.

Guidelines, Responsibilities, Structures, and Processes

In line with the OSRAM Environmental Protection, Health, and Safety policy and our Group guideline on product-related environmental protection, we are committed to responsible environmental management and the efficient use of resources, and to the development of eco-friendly processes and advanced products. The relevant rules and guidelines are issued by EHS; our business model dictates that responsibility for operational implementation lies with the business units themselves. Each business unit is responsible for ensuring that its products are designed in an environmentally compatible way and that resources are used

efficiently both in production and use. At the product development stage, measures are built into the processes to improve products continuously and meet legal requirements and customer specifications. EHS advises the units on legal requirements and monitors compliance.

Against a backdrop of ever stricter requirements, we use a special IT application that allows us to monitor the use of critical substances at component level and to achieve legal compliance for 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 substances employed in our products use this information to help avoid, reduce, and declare the use of hazardous substances.

In order to fulfill our responsibility along the entire supply chain, we also involve our suppliers. They are required to promptly provide the necessary declarations and information for the qualification of new parts as well as for changes in relevant laws.

Responsibility for the aforementioned conflict minerals lies with Purchasing, which at Managing Board level also falls under the remit of the Chief Technology Officer (CTO). Because of the close association with risks of possible human rights violations, this area is explained in detail in [7.1 Respect for Human Rights, p. 60.](#)

Objectives, Action Taken, and Results

We have made it our goal to monitor the use of critical substances at component level to ensure that, in the face of increasingly stricter regulatory requirements, we can sell our electrical and electronic devices around the world without further development.

We also aim to gradually reduce the amount of critical raw materials and substances we use, particularly conflict minerals, and replace them with alternative materials where technically possible and commercially feasible. OSRAM strives for full transparency with regard to conflict minerals for its entire purchasing volume and is committed to dealing with the issue in accordance with the guidelines of the Organisation for Economic Co-operation and Development (OECD)

[7.1 Respect for Human Rights, p. 60.](#)

In fiscal year 2019, we refined and improved our special IT application that allows us to continually monitor and improve the use of critical substances and components in accordance with our global requirements. These improvements mainly concern the simplification of communications from the supply chain, in particular. Changes in the regulatory environment were incorporated.

The focus was on updating the data for the revised RoHS Directive (2015/863/EU; Restriction of Hazardous Substances), which prohibits the use of four new substances. We were again able to significantly improve the completeness of the information, data, and declarations provided electronically

(P) [Page <62>](#)

(P) [Page <60>](#)

(P) [Page <60>](#)

by our suppliers. This enables us to assess risks and product conformity more quickly and to react promptly and appropriately.

Our suppliers are required to comply and keep up to date with the regulations that are relevant to our markets. We carry out regular supplier audits to ensure that they meet this obligation, among other things.

Due to the close association with human rights, all action taken and results relating to conflict minerals are described in [► 7.1 Respect for Human Rights, p. 60.](#)] ⓘ

5.6.2 Packaging and Labeling

OSRAM has clear guidelines for the design and procurement of packaging. Packaging should be made from environmentally sustainable materials that can be easily recycled or disposed of. In addition, its volume and weight should be limited to what is required to protect the product. Packaging is even incorporated into the design process, which makes a significant contribution to waste prevention. To avoid waste, we use folding boxes as the primary packaging medium for the majority of our products and corrugated cardboard boxes for transit packaging.

Responsibility for the development and specification of packaging at OSRAM lies with the Packaging Processes department, which serves all business units and monitors compliance with the guidelines. In the European Union (EU), Directive 94/62/EC on packaging and packaging waste aims to minimize the complexity of packaging and the amount of material used in packaging.

OSRAM uses a software tool to consolidate and evaluate data on packaging materials. The tool can calculate recycling charges for a particular country and select an appropriate service provider, for example. It collects data that covers 80% of revenue generated in the EMEA region and extrapolates this to 100%. Since no figures are available in other regions, the packaging weight is estimated based on revenue. We work on the assumption that product groups are packaged in a similar way in all regions.

OSRAM has set itself the target of increasing the share of its packaging that uses paper-based and reusable materials (returnable packaging). Relevant quantitative data is available only on a project-by-project basis. In fiscal year 2019, approximately 6,500 metric tons of paper-based packaging materials (e.g., folding boxes, blister cards, and corrugated cardboard) and around 5,500 metric tons of plastic packaging (e.g., thermoformed shells, injection-molded components, foam, and corrugated plastic) were used.

In fiscal year 2019, we formulated an approach for reducing the packaging material used to transport pre-materials for the production of spare lamps kits. It involves reusing the packaging, which should reduce consumption by 75%. Implementation began in the 2019 calendar year.

OSRAM is committed to responsible practices both in relation to the packaging material used and to the information that is provided on the packaging [► 4.4 Product Safety and Quality, p. 30.](#) Our product labeling complies with the relevant legislation. We provide additional information on energy consumption and product lifespan either on the packaging itself or on a separate data sheet.

The labeling of our products is subject to country-specific regulations. A system is in place to manage these requirements on a global basis so that our newly launched or modified products meet all local requirements. OSRAM uses a ‘market access conditions awareness’ platform*, a centralized database that includes information about national laws, technical regulations for market access, and requirements relating to the labeling of products. If there are changes to regulatory requirements in the countries in which we operate, the companies concerned will report any changes. The business units are then informed and can take appropriate measures.

(P) [Page <30>](#)

(P) [Page <60>](#)

5.6.3 Take-back and Circular Economy

As part of its contribution to the circular economy, OSRAM strives to continuously return used raw materials [5.6 Raw Materials and Substances, p. 42](#), to the production process. Our focus on recycling and consistently improving recyclability starts right at the initial development stage. The aim of recycling is to recover as many unmixed materials as possible in order to conserve limited and valuable resources.

In the EU, we are required by law to take back our products and recycle them*. Since 2005, we have been working together with other manufacturers in the lighting industry to establish recycling service organizations. Specialist service providers collect and recover products so that waste from electrical and electronic equipment can be efficiently recycled when the products have reached the end of their operating life. Since the program is implemented by third parties and on a cross-brand basis—for example in Germany by the company Lightcycle Retourlogistik und Service GmbH—we are unable to provide any specific figures for the reuse, reprocessing, or recycling of OSRAM products and components. Outside the EU, statutory take-back obligations are very limited in extent.

In accordance with our business model, initiatives for conserving resources take place at the level of the business units:

- In the automotive lighting business, OSRAM added a fog light solution to its portfolio of replaceable LED light sources that meet the ECE R128 standard in fiscal year 2019. When a fault occurs, it is now no longer necessary to replace the entire headlight but only the defective component.
- OSRAM had launched an entire product line of drivers with casings made of 100% recycled plastic in fiscal year 2018. In fiscal year 2019, the production process was improved as well: Plastic that is left behind in the injection molds (up to 20% of the total volume used) is collected, ground down, and melted, and then sprayed into the mold for the next part to be produced.
- In fiscal year 2019, our business Unit Opto Semiconductors launched a project focused on the recovery of germanium [5.5 Waste, p. 41](#).

As part of our work in the LightingEurope trade association's sustainability focus area, we contribute to the position adopted by the lighting industry on the circular economy and ecodesign and to white papers on serviceable luminaires. In 'Wirtschaft macht Klimaschutz' (Business and Climate Protection), an initiative of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, OSRAM works on industry-wide solutions as a member of the circular economy working group.

(P) [Page <42>](#)

(P) [Page <41>](#)

* OSRAM CONTINENTAL does not participate in the take-back practice described here. OSRAM CONTINENTAL manufactures components for end products and only after they are built into these end products are they potentially subject to a legal take-back requirement.

5 . 7

Compliance in Environmental Protection

[Employees, customers, and society rightly expect companies to adopt legislation, legal requirements, and standards on a proactive and comprehensive basis. OSRAM is therefore committed to complying with regulations and legislation. We meet this objective through our EHS guidelines, which are mandatory for all locations. We are also expressly committed to strict compliance with environmental legislation and to striving to achieve our targets.

The EHS guidelines also take into account the relevant chemicals legislation that regulates the use of specified hazardous substances in electrical and electronic equipment. They regulate the use and handling of substances and preparations at all our locations and thereby improve the level of protection afforded to people's health and the environment both inside and outside the Company. OSRAM is not content to simply apply the substance bans and threshold limits that are set locally. For example, it uses lower proportions of lead and mercury in its products than those prescribed by law.

In our supply chain, we use the OSRAM Index List Environment (ILE) and the Code of Conduct for Suppliers to communicate our expectations relating to the environment and climate protection and to request that these are met

›3.4.1 Code of Conduct for Suppliers, p. 22.

Our guidelines require all new OSRAM employees to receive an induction on EHS-related issues and then be given further training at regular intervals. The aim is not just to raise awareness of such matters but also to point out the consequences for OSRAM of any regulatory breaches.

To meet its environmental goals, OSRAM strives for matrix certification to the standards ISO 14001 (environmental management) and ISO 50001 (energy management). During the 2019 calendar year, eight locations were inspected as part of ten external certification audits (six for ISO 14001 and four for ISO 50001). The corporate EHS department carried out a further eleven corporate EHS audits to check that the EHS management system is used permanently worldwide. These combined audits are based on the standards ISO 14001 and ISO 45001 (occupational health and safety) and in Europe also on ISO 50001.

In fiscal year 2019, no relevant penalties or fines amounting to more than €10,000 for breaches of environmental legislation were imposed.] ✓

(P) Page <22>



6 . 0

Employees

Our employees are the key to our long-term success as a business. They add the value that we want to offer our customers.

6 . 1

Responsibility to Employees

[Our Human Resources (HR) work plays a key role in our efforts to drive sustainability. We believe that employees who are satisfied, successful, and also healthy provide the necessary foundation for achieving long-term commercial success.

HR work at OSRAM is currently facing two major challenges. Firstly, the lighting industry has been in transition for a number of years now and OSRAM is becoming a high-tech player in the photonics sector [» 2019 OSRAM Licht Group Annual Report A.1.1.1 Business Model, p. 3](#). Secondly, we are faced with an increasing shortage of skilled workers in many of the regions in which we operate. OSRAM's HR work is therefore hugely important to the continued success of the business, which is why the Chairman of the Managing Board (CEO) also serves as the Company's Labor Relations Director.

Guidelines and Responsibilities

Human Resources (HR) is responsible for the key topics identified above, with the exception of occupational health and safety. HR at OSRAM is organized on a global basis, and overall responsibility for HR matters and HR organization lies with the Chief Human Resources Officer, who reports directly to the Chairman of the Managing Board. Occupational health and safety at OSRAM falls under the remit of the Chief Technology Officer (CTO), who has delegated this area of responsibility to the head of Environmental Protection, Health, and Safety (EHS) [» 6.2 Occupational Health and Safety, p. 49](#).

OSRAM's global HR guideline aims to establish worldwide standards in the area of HR. It contains firm rules for employees and managers on the hiring process, diversity, talent acquisition, people development, training, remuneration, and benefits.]

You will find additional information in the [» 2019 OSRAM Licht Group Annual Report, B.6 Other Disclosures, Note 31 I Personnel Costs, p. 122](#).

Employees by region

(continuing operations) in thousand FTEs

| | September 2018 | September 2019 |
|----------------------|----------------|----------------|
| EMEA | 10.1 | 9.4 |
| of which Germany | 6.2 | 5.8 |
| APAC | 13.1 | 11.2 |
| of which China | 4.3 | 3.8 |
| of which Malaysia | 8.0 | 6.9 |
| Americas | 3.0 | 2.9 |
| of which NAFTA | 2.8 | 2.7 |
| OSRAM (total) | 26.2 | 23.5 |

P Page <49>

For the chart below showing how many employees were employed in which function groups at OSRAM in fiscal year 2019, the number of employees is measured in terms of the average full-time equivalents (FTEs) for the year:

Employees by function

in thousand FTEs

| | 2018 | 2019 |
|-------------------------------------|---------------|---------------|
| Production and service | 19,767 | 18,610 |
| Research and development | 2,621 | 2,752 |
| Selling | 1,995 | 2,017 |
| Administration and general services | 1,255 | 1,307 |
| Employees | 25,637 | 24,685 |

6 . 2

Occupational Health and Safety

[OSRAM is committed to offering its employees a safe and healthy working environment. Minimizing the risk of occupational illnesses and accidents at work forms part of this. In this way, we not only fulfill our responsibility to society as a whole but also reduce economic losses.

Guidelines, Responsibilities, Structures, and Processes

OSRAM's Environmental Protection, Health, and Safety (EHS) department has the managerial authority to issue guidelines related to occupational health and safety and formulates relevant guidelines that apply across the Group. The occupational health and safety guideline applies across the Company, and appropriate training and monitoring processes have been implemented for its compliance.

Overall responsibility for occupational health and safety lies with the Chief Technology Officer (CTO), who has delegated tasks and managerial authority to the head of the corporate EHS department [5.1 Environmental Management, p. 33.](#)

This year, the locations in Wuxi, Kunshan DO, Kunshan OSRAM CONTINENTAL, and Foshan, all China; Chennai, India; Penang and Kulim, both Malaysia; and Bergamo, Italy; and the headquarters in Munich, Germany were still externally certified according to the OHSAS 18001 standard for occupational health and safety management. In 2019, we completed the transition to the new ISO 45001 standard. OSRAM strives for matrix certification to the standard ISO 45001. Our internal guidelines require the other production facilities to also maintain a management system for occupational health and safety in accordance with the ISO 45001 standard. Compliance is monitored by internal audits. Development and sales locations with more than 50 employees operate a reduced management system and contribute data to the health and safety indicators. The EHS department includes in its reporting a selection of locations that do not quite reach this threshold but might do so in the future, and our reporting therefore covers 96% of our employees.

At the aforementioned locations, the responsible managers must carry out a risk assessment for each area of activity in accordance with internal guidelines and with the support of trained safety officers. We have also established occupational health and safety committees in accordance with local legal requirements or on a voluntary basis. Furthermore, all OSRAM employees have an obligation and a responsibility to be mindful of safety, wherever they are.

Objectives

Our goal is to offer our employees a safe and healthy workplace. In order to meet this goal, we aim to continually improve the parameters that impact on health and safety.

OSRAM records work-related injury data at its locations as a basis for calculating the internationally recognized key metrics Lost Time Injury Frequency Rate (LTIFR) and Severity Rate (SR).

Targets are set for each individual location. For LTIFR, the target is based on achieving a reduction relative to the average figure for the past three years. The SR target factors in the regional average duration of absence per injury. The regional and global targets are then aggregated from the individual values.

For fiscal year 2019, we set ourselves a global LTIFR target of 0.30 (previous year: 0.28). The SR target for fiscal year 2019 was 7.53 (previous year: 9.45). We already expect a zero-injury rate at non-production locations.

Action Taken, Results, and Performance Indicators

A host of activities and measures focused on occupational health and safety were initiated and carried out in our regions in fiscal year 2019. These included special work safety days and newsletters that were distributed centrally and locally with the aim of improving the sharing of best practice, including in the raising of safety awareness and the optimization of personal safety equipment.

We achieved the targets that we had set ourselves for fiscal year 2019. The comparatively low LTIFR of 0.29 was below the target, for example, and in line with the low figure attained in fiscal year 2018 (0.28). There was no rise in the number of workplace accidents, but there was a decrease in the number of hours worked.

(P) Page <33>

The SR of 6.04 was well under the figure for the previous year (9.45) and was below the target as well. As we had to factor in absences in fiscal year 2019 that were related to accidents from the previous year, the SR did not match the level of fiscal year 2017 (5.42). We cannot directly influence medically justified absences, so we continued to work on reducing the overall accident rate in fiscal year 2019. The long-term trend shows that the result for the previous year does not reflect a systematic problem, but rather a coincidental chain of accidents.

No fatal workplace accidents occurred in the fiscal year under review.] ✓

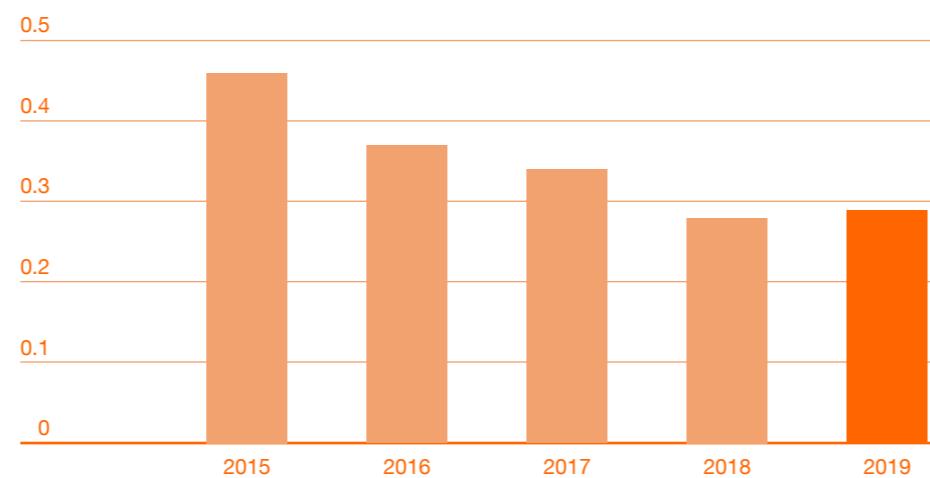
Performance indicators for occupational health and safety

(continuing operations)

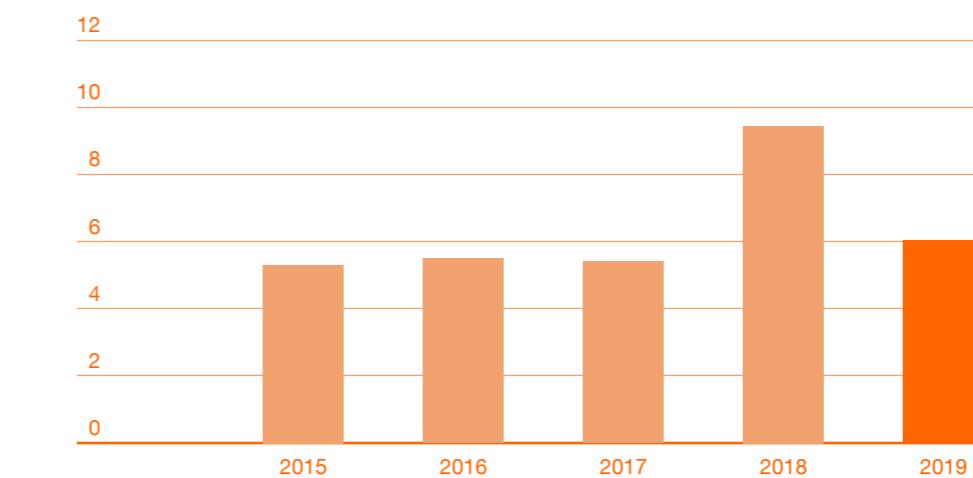
| | 2015 | 2016 | 2017 | 2018 | 2019 | Target 2019 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| Global LTIFR | 0.46 | 0.37 | 0.34 | 0.28 | 0.29 | 0.30 |
| LTIFR EMEA | 0.87 | 0.63 | 0.73 | 0.59 | 0.55 | |
| LTIFR APAC | 0.29 | 0.27 | 0.15 | 0.10 | 0.10 | |
| LTIFR Americas | 0.26 | 0.07 | 0.18 | 0.17 | 0.34 | |
| Global severity rate (SR) | 5.32 | 5.51 | 5.42 | 9.45 | 6.04 | 7.53 |
| SR EMEA | 11.40 | 11.42 | 13.64 | 18.46 | 11.40 | |
| SR APAC | 2.35 | 2.64 | 1.52 | 3.90 | 2.12 | |
| SR Americas | 4.17 | 2.23 | 2.21 | 9.15 | 7.45 | |
| Number of accidents resulting in absence from work | 115 | 94 | 85 | 75 | 75 | |

[The LTIFR represents the number of accidents at work resulting in at least one day lost in relation to the total number of working hours during the fiscal year. The SR represents the total number of days lost in relation to the total number of working hours during the fiscal year. Both KPIs are scaled to 200,000, excluding commuting accidents.] ✓

Lost Time Injury Frequency Rate (LTIFR)



Severity Rate (SR)



6 . 3

Fair Working Conditions

[Fair working conditions are a cornerstone of how we conduct our business and the basis of good and fair collaboration. We aim to offer every employee a working environment that is free from violence and discrimination, and in which each person is respected as an individual. Priorities in our efforts to create fair working conditions include, in particular, promoting diversity, fair pay and company benefits, and open and fair collaboration between employers and employees.

Having a diverse workforce is of great importance to us as a global company [»6.5 Diversity and Inclusion, p. 55](#). In times where skilled workers are increasingly scarce, being able to offer an open working environment and fair pay with suitable company benefits is very important. We conduct an open and fair dialog and find an appropriate balance between the interests of employees and employer, never more so than during OSRAM's current transformation phase [»2019 OSRAM Licht Group Annual Report, C.5.6 Employee Aspects, p. 181](#), which involves restructuring of the workforce [»2019 OSRAM Licht Group Annual Report, Note 5 | Personnel-related Restructuring Expenses in B.6 Notes to the Consolidated Financial Statements, p. 84](#).

Guidelines, Structures, and Processes

In order to offer fair working conditions to our employees around the world, we make use of, and commit ourselves to, international frameworks such as those provided by the International Labour Organization (ILO) and the UN Global Compact. We are committed to giving our employees the right to freedom of association and the possibility of concluding collective agreements.

These and other principles, such as respect for the personal dignity, privacy, and personal rights of each individual and a zero-tolerance approach to discrimination, are set out in our Business Conduct Guidelines (BCG) and apply to all employees and members of OSRAM's Managing Board and Supervisory Board. The guidelines govern our dealings with each other and with our customers, shareholders, business partners, and the public. Potential violations of the behavioral requirements set out in the BCG can be reported via the whistleblowing system 'Tell OSRAM.' All reports are followed up [»3.2 Combating Corruption and Anti-Competitive Behavior, p. 16](#). The new cultural values were defined in fiscal year 2018 based on the ongoing realignment of OSRAM ([»#TheNewOSRAM](#)) and focus on how employees should work together and how leadership at OSRAM should be structured.

The Code of Ethics was implemented at OSRAM CONTINENTAL in fiscal year 2019. The code defines the values that shape the company's actions and help it to act lawfully and ethically. The Code of Ethics also provides guidance on how to interact responsibly with one another in the workplace, for example.

In order to fulfill our responsibilities along the entire supply chain, we require our suppliers to comply with the rules and obligations enshrined in the OSRAM Code of Conduct for Suppliers, and to provide their employees with working conditions that conform to this [»3.4 Supply Chain Management, p. 21](#), and [»7.1 Respect for Human Rights, p. 60](#).

At OSRAM CONTINENTAL, the requirements to be met by suppliers with regard to fair working conditions and respect for human rights are set out in OSRAM CONTINENTAL's Code of Ethics.

Our corporate diversity activities are embedded in the HR organization. We place great value on developing our culture of diversity and on meeting the needs of the local workforce. Increasing the proportion of women in managerial roles is a key aspect of this [»2019 OSRAM Licht Group Annual Report, C.4.3.4 Targets for the Proportion of Women on the Managing Board, Supervisory Board, and in Senior Management, p. 169](#), and [»6.5 Diversity and Inclusion, p. 55](#).

There are currently no targets for diversity at OSRAM CONTINENTAL.

Collective agreements are in place at our largest European companies in terms of number of employees*. 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.] ☑

• [GRI Index](#)
102-41

(P) [Page <21>](#)
[Page <60>](#)

(P) [Page <55>](#)

(P) [Page <16>](#)
[Page <55>](#)

Objectives, Action Taken, and Results

[In fiscal year 2019, the existing whistleblowing system ‘Tell OSRAM’ was expanded so that violations of our fair working environment principles can also be reported via the system. We aim to analyze the reports and identify Company-wide prevention measures.

Overall, there was one reported indication of a possible violation of the principle of fair working conditions in fiscal year 2019. This report was recorded and analyzed systematically, and no violation of the principle of fair working conditions was identified. We are currently working on specific prevention measures, including training and flyers, to ensure that fair working conditions can be achieved in all sectors and regions.] 

In the reporting year, 88% of our employees within the main European companies were covered by collective bargaining agreements. In Germany, more than 97% of employees are covered by collective bargaining agreements.

Employees (headcount) by contract type

(continuing operations)

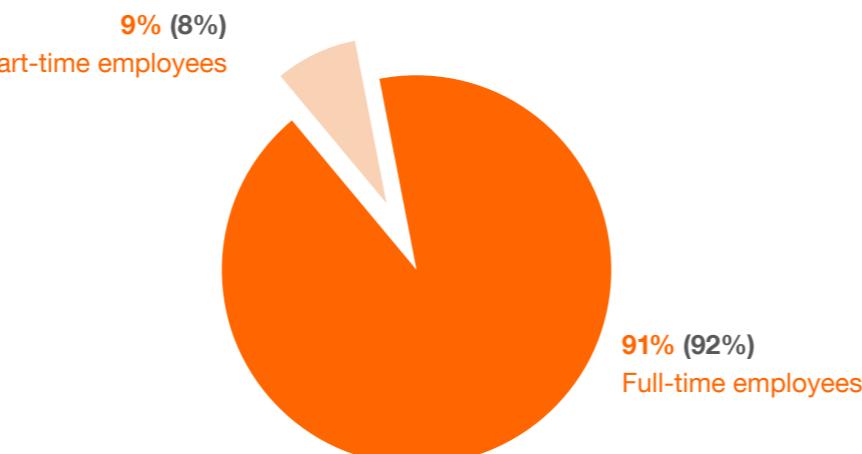
Male and female



| | Fiscal year | |
|---------------------|--------------------|--------------------|
| | September 30, 2018 | September 30, 2019 |
| Temporary employees | Approx. 23% | Approx. 19% |
| of which female | 61% | 62% |
| Permanent employees | 77% | 81% |
| of which female | 44% | 43% |

Full- and part-time employees (headcount)

(continuing operations)
in Germany (figure for previous year in brackets)



areas such as health and accident insurance, occupational pension provision and other forms of deferred compensation, parental leave, maternity rights, and in Germany also an employee share program in fiscal year 2019.

We also offer our employees various means of providing feedback and engaging in dialog with us [6.6 Employee Satisfaction and Employer Attractiveness, p 57.](#)

• **GRI Index**
102-41

P Page <57>

6.3.2 Reorganization of the Company and Restructuring Measures

Restructuring remains an essential step in OSRAM’s transformation outlined above. Where job cuts are unavoidable, OSRAM strives to minimize the social impact and to consult its employees at the earliest stage possible.

With regard to the transformation of the Company, we succeeded in agreeing a future concept for the German locations with the employee representatives during fiscal year 2018. The talks were held not only in the committees required by the Betriebsverfassungsgesetz (BetrVG—German Works Constitution Act), such as the Economic Committee and the General Works Council, but also in a steering committee set up for this purpose. The steering committee, in which representatives of the Group Works Council and of the labor union participate, discusses developments resulting from the transformation at a very early stage and highlights the consequences for employment. Information is provided first-hand by members of the Managing Board, by the head of Operations, and by the head of HR.

The bulk of the measures were implemented in fiscal year 2019 in line with the plan, which runs until the end of fiscal year 2020. Its implementation involves both job cuts and employee training. This program provides employees with the training they need to meet the new job requirements and so to be assigned to other tasks. OSRAM has made a central training budget available for this purpose. Where job cuts were necessary, we made sure that they were voluntary redundancies with the minimum possible social impact

» [2019 OSRAM Licht Group Annual Report, Note 5 | Personnel-related Restructuring Expenses in B.6 Notes to the Consolidated Financial Statements, p. 84](#). Early retirement, in particular, played an important role alongside termination agreements. We have so far been able to avoid termination notices through the extensive use of pre-retirement part-time employment arrangements and the aforementioned skills training.

OSRAM CONTINENTAL is not part of OSRAM's transformation process.

The new cultural values were defined in fiscal year 2018 based on the ongoing realignment of OSRAM (#TheNew-OSRAM) and focus on how employees should work together and how leadership at OSRAM should be structured. The initiative implemented in this regard in fiscal 2019 included a variety of measures such as integration into recruitment and people development processes, team workshops, a multiplier network, a self-learning and quiz platform for all employees, poster campaigns, and #TheNewOSRAM flyers, and played an important role in enshrining the new cultural values throughout the Group.] ⓘ

6 . 4

People Development

[Employee training and continuing professional development are key factors in the future success of our business. OSRAM and the labor market are undergoing a transition

» [2019 OSRAM Licht Group Annual Report, C.5.6 Employee Aspects, p. 181](#). We want to keep our employees' skills up to speed with ongoing changes in industry and the workplace by providing opportunities for professional development, and thus improve their long-term engagement.

We also believe it is part of our role as a corporate citizen to provide training for young people in many of the countries in which we operate and in doing so give them access to the world of work at an international company.

Guidelines, Responsibilities, Structures, and Processes

People development at OSRAM is an essential strategic approach to maintaining and improving our competitiveness over the long term. Our objective, based on the business-specific requirements, is to fill positions with the right people and make the best use of each employee's individual talents and skills.

People development at OSRAM includes educational and training opportunities, a range of career paths, and programs for high-potential employees. Employees have many

opportunities for professional and personal development throughout their career at OSRAM, from vocational training and the management trainee program to subject-specific training and management and specialist programs.

Human Resources (HR) is responsible for people development at OSRAM » [6.1 Responsibility to Employees, p. 48](#).

Our apprenticeships play a major role in securing the next generation of employees. We currently provide training in eight recognized technical trades and one commercial occupation and as part of a dual study program. In fiscal year 2019, 134 (previous year: 139) young people were employed at OSRAM in apprenticeships or on the dual study program, of whom 128 (previous year: 133) were in Germany.

In addition to providing training, OSRAM continually and systematically works on employee development. This involves a regular and structured dialog between employee and line manager. For non-pay-scale employees and selected employee groups, this forms part of the established GROW process. The process encourages close dialog between line manager and employee, and also involves top management.

We offer our entire workforce a comprehensive general training program with numerous opportunities for professional development and skills upgrading. The program is reviewed once a year and modified if necessary. It is particularly important during the current transformation phase to give our employees the opportunity to get involved in specialist areas of increasing importance to OSRAM, such as digitalization, as well as in customer and project management.

(P) Page <48>

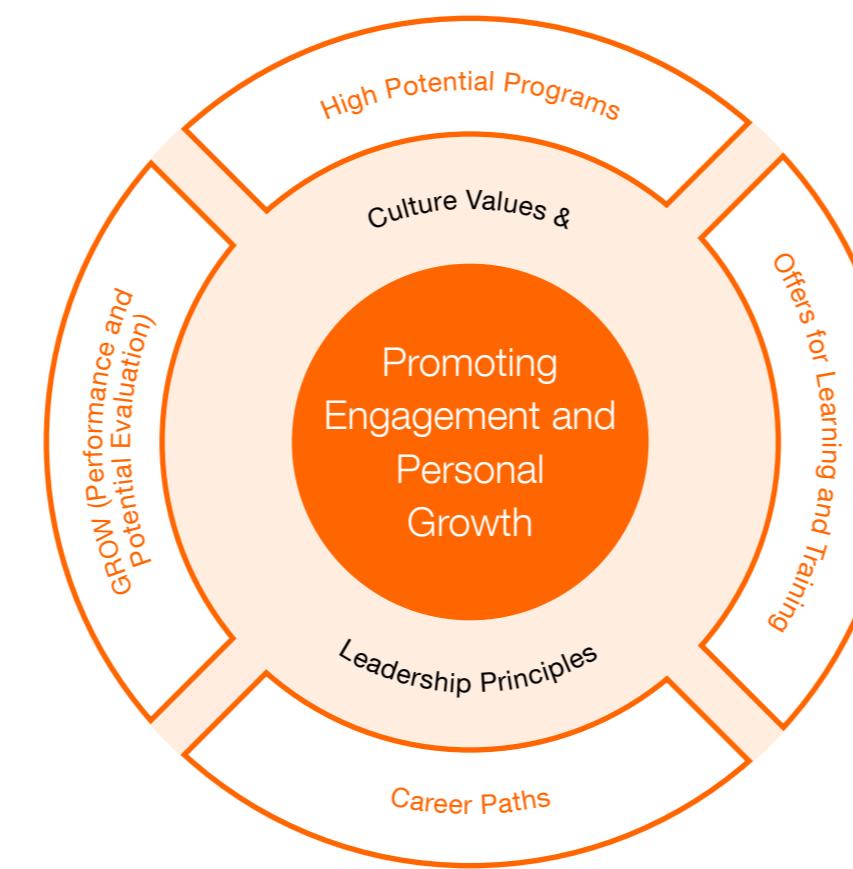
We offer our employees a range of development opportunities to match their individual skills profile under the Leadership, Key Expert, and Project Management global career paths.] ✓

- **Leadership:** The OSRAM Leadership career path helps our managers to more effectively overcome the challenges that they will face in their work. The focus is on change management, entrepreneurship, innovation, strategic decision making, performance management, and nurturing of talent. In fiscal year 2019, there were 2,173 employees on this career path.
- **Key Expert:** This career path gets the best out of employees with outstanding technical expertise so that they can drive innovation and technology trends within the Company. In fiscal year 2019, there were 84 employees on this career path.
- **Project Management:** The Project Management career path enables employees whose role is 100% focused on project management and who have the necessary expertise to develop in a similar direction to those on the leadership career path. The Project Leader Development Programs (PLDP) contribute to the professionalization of our project manager skill profiles, are tailored to the various levels within the Company, and strengthen the project management community at OSRAM. In fiscal year 2019, there were 102 employees on this career path.

[Employees are nominated for our high-potential programs, the aforementioned career paths, and the accompanying development programs as part of the GROW process. The high-potential programs are used to develop our most talented individuals at global and local level.] ✓

A total of 209 employees worldwide are currently enrolled in the high-potential programs; 356 are enrolled in the career path development programs.

Personnel management



Training and career development programs and talent management are being established and implemented at OSRAM CONTINENTAL.

Objectives, Action Taken, and Results

To remain competitive in a changing industry and employment landscape, we need to identify at an early stage the skills that the Company will need in the future so that wherever possible we are able to fill vacancies, including senior roles, internally.

To help us adequately fill our management positions, we established structures and processes in fiscal year 2019 that we will regularly review and adapt as required. As a result, we have developed a global talent management strategy and introduced a new learning management system, for example.

In fiscal year 2019, OSRAM invested €7.53 million in its employees' continuing professional development.

The revised and newly created processes and programs were introduced in the past fiscal year in line with our objectives. The new learning management system has significantly improved user-friendliness, and further countries will be included and have access to it in the future. In fiscal year 2019, the content of both the local GoFurther! and the global high-potential programs was revised and an executive program was launched. Thanks in part to these activities, we were able to significantly increase the number of manage-

ment and senior management positions filled by internal candidates.

Since early 2019, the Leadership Quality Gate has been used in selecting candidates for recruitments to senior management. This process is carried out by an external partner.

The aim of the global trainee program LightUp! launched during fiscal year 2018 is to provide training to new recruits and make OSRAM even more appealing to graduates. The 17 trainees currently undergoing the 18-month program are benefiting from a comprehensive range of career development opportunities. They are supported and encouraged in their personal and professional development by experienced mentors.] ☐

Recruitments to management positions (continuing operations)

| | 2018 | 2019 |
|--|------------|------------|
| Number of recruitments – senior management positions ¹⁾ | 29 | 37 |
| thereof internal recruitments | 12 | 31 |
| Number of recruitments – management positions ²⁾ | 250 | 254 |
| thereof internal recruitments | 51 | 189 |
| Number of recruitments – total management positions | 279 | 291 |
| thereof total internal recruitments | 63 | 220 |

[1) Senior managers who belong to the executive level of the organization.

2) Managers above pay scale.] ☐

6.5

Diversity and Inclusion

[As a global company that operates in over 120 countries, having a diverse workforce is of great importance to OSRAM. In fiscal year 2019, OSRAM employed 23,500 people of 77* different nationalities. We firmly believe that diversity has a positive effect on our business in the various markets, as relationships with international customers and suppliers require cultural awareness and flexibility, and that diverse teams have a strong ability to innovate. We define diversity not only with regard to employees' cultural background, age, sexual identity, gender, physical limitations, religion, and beliefs, but also in terms of the skills that they possess. To put our beliefs into practice, OSRAM signed the Charter of Diversity in 2013, a voluntary commitment by German companies under the patronage of the Federal Chancellor.

Guidelines, Structures, and Processes

The Business Conduct Guidelines, which apply across the OSRAM Licht Group, are intended to exclude the possibility of any employee being discriminated against because of one of the aforementioned characteristics ➤ www.osram.com/bcg. Diversity is also enshrined in the HR guideline as an integral element of the HR strategy ➤ [6.1 Responsibility to Employees](#), p. 48, and ➤ [6.3 Fair Working Conditions](#), p. 51.

Objectives, Action Taken, and Results

Diversity is one of a number of factors that are used at OSRAM in recruitment and making internal promotions. For this reason, our manager recruitment guidelines were reviewed for diversity aspects and adapted in fiscal year 2019, for example.

On July 13, 2017, the Managing Board set the target for OSRAM Licht AG for the proportion of women in the first level (senior managers) and second level (managers above the pay scale) of management in Germany at 34% and 30% respectively. Both targets are to be reached by June 30, 2022. For the Group as a whole, the Managing Board set the target for both levels in Germany to be achieved by June 30, 2022, at 17.5% ➤ [2019 OSRAM Licht Group Annual Report](#), C.4.3.4 Targets for the Proportion of Women on the Managing Board, Supervisory Board, and in Senior Management, p. 169. Globally, the share of women in first level management roles was 15% as of September 30, 2019, while the figure for second level management roles increased to 22%. As of September 30, 2019, the proportion of women across the Group in the first and second levels of management in Germany stood at 12.2% and 17.6% respectively.

OSRAM CONTINENTAL is excluded from the calculation of the target figures for the Group as a whole.

Twice a year, we record the gender ratio in countries where the Group has more than 400 employees to further increase the proportion of women in managerial roles internationally as well. Our objective is to further increase the proportion of

P Page <48>
Page <51>

women in managerial roles while taking regional circumstances into account. As a technology company, OSRAM initiates and participates in activities in Germany aimed at making technology careers more attractive to women and girls in order to achieve this objective over the long term.

In the past fiscal year, there were numerous activities to make technical roles at OSRAM more attractive to women and girls, in particular. For example, the first Girls' Day was held in Munich in fiscal year 2019, in which 40 girls with an interest in technology took part. We also visited fairs such as herCAREER and women&work in Germany. OSRAM also participates in 'Komm mach MINT,' a German networking initiative for women working in science, technology, engineering, and mathematics.

OSRAM runs the 'Frauen in Führung' (women in leadership) and 'Frauenkompass' (women's compass) programs, and provides management training specifically for female employees, in particular in Germany. Frauenkompass offers a structured development process for individual career paths. Globally, the Women Leadership Forum offers women in senior positions the opportunity to hone their management skills and establish a network within OSRAM. A working group in HR is also developing further measures and initiatives to support women in the Company. To mark International Women's Day, we ran a feature on our intranet introducing

Share of female and male employees at OSRAM

(continuing operations)

| | First management level ¹⁾ | | Second management level ²⁾ | | Total workforce | |
|--------|--------------------------------------|------|---------------------------------------|------|-----------------|------|
| | 2018 | 2019 | 2018 | 2019 | 2018 | 2019 |
| Female | 16% | 15% | 20% | 22% | 48% | 46% |
| Male | 84% | 85% | 80% | 78% | 52% | 54% |

[1) Senior managers who belong to the executive level of the organization.

2) Managers above pay scale.] ☐

women with inspirational careers at a range of international sites [►6.4 People Development, p. 53](#), and [►3.1.1 Functions and Responsibilities of the Governance Bodies, p. 14](#).

OSRAM also makes it easier to combine work and family life, for example by offering flexible working models such as the option of working part-time or from home. In Germany, support is also provided with childcare.

Our Diversity Program is designed to firmly establish diversity in the corporate culture and encompasses various initiatives. By linking diversity with our #TheNewOSRAM culture initiative, for example, we aim to support this process through a variety of formats. The Employee Groups give all OSRAM employees a forum for discussing specific topics and aspects of diversity. They include the Flexwork Community, which

advocates flexible working time models at OSRAM, and our Women Network, which brings together female role models and talented female employees. In fiscal year 2019, we held another successful Diversity Day. Diversity was also one of the key topics for our Sustainability Council in fiscal year 2019. Examples of how we promote diversity can be found on the OSRAM website [►www.careers-osram.com/en](#).] ☐

P [Page <53>](#)
[Page <14>](#)

6 . 6

Employee Satisfaction and Employer Attractiveness

[Our employer attractiveness, i.e., how we are perceived internally and externally as an employer, is a key determinant of the long-term success of the organization, particularly in light of our transformation and the development of the labor market [» 2019 OSRAM Licht Group Annual Report, C.5.6 Employee Aspects, p. 181](#). We believe that employee satisfaction and our attractiveness as an employer are an indicator of how we treat our employees, and is heavily influenced by [» 6.2 Occupational Health and Safety, p. 49](#), [» 6.3 Fair Working Conditions, p. 51](#), and [» 6.4 People Development, p. 53](#).

Guidelines, Responsibilities, Structures, and Processes

We have defined an employer positioning that is aligned with our corporate goals and that provides a strategic framework for our HR work. This is set out and described in an employer branding guide* in order to provide uniform standards across the Group.

We carry out a global survey in order to measure employee satisfaction and engagement. To obtain further feedback from employees, we hold regular events such as town hall meetings with OSRAM's management and run webcasts with the Managing Board and other members of management. We incorporate the feedback received into our HR work, which we strive to continually improve based on what our employees tell us. Employee motivation and satisfaction are also enhanced by intangible benefits such as flexible working hours and the option to work remotely as well as a good work-life balance.

OSRAM also regularly takes part in or supports training days, graduate fairs at universities, and other relevant events in order to communicate our employer positioning and present OSRAM as an employer of choice.

Objectives, Action Taken, and Results

During the Company's current transformation, our objective is to match the employee satisfaction levels of other companies that are undergoing change, with a view to maintaining our strong appeal as an employer in the labor market. We hope to achieve this through the successful transformation of our Company, underpinned by HR activities with a long-term focus. In terms of employer attractiveness, our objective for fiscal year 2019 was to continue to be certified as a

'Top Employer' by external institutes and to remain highly popular with the target group of potential employees. In order to maintain awareness of our attractiveness, we wanted to expand our activities in social media.

The employee survey planned for fiscal year 2019 was delayed due to financial considerations. We intend to conduct the survey in fiscal year 2020 instead.

Global measures resulting from the 2017 employee survey were completed in the previous year. In fiscal year 2019, measures at global level were integrated into the campaign #TheNewOSRAM.

The target of retaining our certification as a Top Employer was achieved in fiscal year 2019, with certificates awarded in Germany, China, Malaysia, and the U.S.A. [» https://www.top-employers.com/en-GB/companyprofiles/de/osram](https://www.top-employers.com/en-GB/companyprofiles/de/osram). We also added further platforms to our social media presence, and can now showcase OSRAM as an attractive employer on Twitter, Instagram, and Xing as well as on LinkedIn and Facebook as before.] ☑

• **GRI Index**
102-43

(P) [Page <49>](#)
[Page <51>](#)
[Page <53>](#)

New hires in 2019 by age category, gender, and region

(continuing operations) (absolute figure and proportion of workforce)

| | EMEA | | Americas | | APAC | | OSRAM (total) | |
|---------------|------------|----------|------------|-----------|------------|----------|---------------|----------|
| | Headcount | % | Headcount | % | Headcount | % | Headcount | % |
| Male | | | | | | | | |
| <30 | 81 | 11 | 108 | 44 | 247 | 15 | 436 | 16 |
| 30–49 | 111 | 3 | 142 | 19 | 232 | 6 | 485 | 6 |
| >49 | 25 | 1 | 38 | 7 | 4 | 2 | 67 | 3 |
| Total | 217 | 3 | 288 | 19 | 483 | 9 | 988 | 7 |
| Female | | | | | | | | |
| <30 | 60 | 13 | 107 | 34 | 193 | 6 | 360 | 9 |
| 30–49 | 92 | 4 | 109 | 14 | 160 | 4 | 361 | 5 |
| >49 | 33 | 3 | 36 | 9 | 3 | 1 | 72 | 4 |
| Total | 185 | 5 | 252 | 17 | 356 | 5 | 793 | 6 |

Employee turnover in 2019 by age category, gender, and region

(continuing operations) (absolute figure and proportion of workforce)

| | EMEA | | Americas | | APAC | | OSRAM (total) | |
|---------------|------------|-----------|------------|-----------|--------------|-----------|---------------|-----------|
| | Headcount | % | Headcount | % | Headcount | % | Headcount | % |
| Male | | | | | | | | |
| <30 | 227 | 30 | 80 | 32 | 543 | 32 | 850 | 32 |
| 30–49 | 448 | 11 | 175 | 23 | 525 | 14 | 1,148 | 14 |
| >49 | 113 | 7 | 101 | 19 | 29 | 13 | 243 | 10 |
| Total | 788 | 12 | 356 | 23 | 1,097 | 19 | 2,241 | 17 |
| Female | | | | | | | | |
| <30 | 116 | 26 | 126 | 40 | 850 | 27 | 1,092 | 28 |
| 30–49 | 325 | 14 | 149 | 19 | 562 | 15 | 1,036 | 15 |
| >49 | 177 | 15 | 63 | 16 | 44 | 16 | 284 | 16 |
| Total | 618 | 16 | 338 | 23 | 1,456 | 20 | 2,412 | 19 |



7 . 0

Society

OSRAM sees itself as being part of society, which means that our responsibility also extends beyond the confines of the Company. We are committed to helping the communities in which we operate to develop in such a way that they are well equipped for the future and we support the embedding of sustainability principles in society.

7 . 1

Respect for Human Rights

[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. The OSRAM product portfolio also requires the use of substances that could be classified as conflict minerals [7.1.1 Conflict Minerals, p. 62](#), and [5.6 Raw Materials and Substances, p. 42](#).

We do not tolerate any form of modern slavery, child labor, forced labor, or human trafficking, whether within our own business or at our suppliers and business partners. We have also put processes and policies in place to help our own locations and our suppliers to meet standards for environmental and social accountability [3.4.1 Code of Conduct for Suppliers, p. 22](#).

The expectations of companies to commit themselves to protect human rights are on the rise. This is reflected in legislation such as the UK Modern Slavery Act and policy initiatives such as the German government's National Action Plan for Business and Human Rights (NAP). We are also increasingly

being called upon by investors and customers to identify and mitigate any adverse impacts that our business activities and business relationships might have on human rights.

Guidelines, Responsibilities, Structures, and Processes

We outline our approach in the OSRAM Human Rights Policy. We respect and support internationally recognized human rights at all of our locations and are committed to the principles of the United Nations (UN) Human Rights Charter, which we actively support as a member of the UN Global Compact.

The human rights of OSRAM employees are enshrined in the Business Conduct Guidelines [3.2 Combating Corruption and Anti-Competitive Behavior, p. 16](#), and the new Human Rights Policy www.osram.com/human-rights-policy introduced in fiscal year 2019. The policy is based on the [Universal Declaration of Human Rights](#), the [fundamental conventions of the International Labour Organization \(ILO\)](#), the principles of the UN Global Compact, and the [Guiding Principles for Business and Human Rights \(UN\)](#). We place an obligation on all OSRAM employees to implement the policy in an appropriate way in their area of responsibility.

The OSRAM CONTINENTAL Code of Ethics contains requirements regarding respect for human rights [6.3 Fair Working Conditions, p. 51](#), and [3.2 Combating Corruption and Anti-Competitive Behavior, p. 16](#).

HR coordinates our duty of care with regard to human rights and our employees. The head of HR (Chief Human Resources Officer) reports directly to the Chairman of the Managing Board, who also serves as the Labor Relations Director. The HR department has the managerial authority to issue human rights guidelines and coordinates how compliance with these guidelines is monitored.

In order to fulfill our responsibility along the entire supply chain, we also involve our suppliers in the process. We place a duty on them to comply with the rules and obligations of the OSRAM Code of Conduct for Suppliers, which includes respect for human rights [3.4.2 Review of Suppliers, p. 22](#).

Since fiscal year 2019, it has also been possible to report potential human rights breaches via the existing whistleblowing system 'Tell OSRAM' [3.2 Combating Corruption and Anti-Competitive Behavior, p. 16](#).

Objectives

A comprehensive Group-wide policy regarding respect for human rights was introduced for the first time in fiscal year 2019. Our aim is to regularly review it against developments in the regulatory environment and adapt it as required. Our objective for fiscal year 2019 was to integrate human rights risks into the OSRAM risk management system and to complete the internal audit.

(P) [Page <22>](#)
[Page <16>](#)
[Page <62>](#)
[Page <42>](#)

(P) [Page <16>](#)

(P) [Page <22>](#)

(P) [Page <51>](#)
[Page <16>](#)

Since fiscal year 2019, it has also been possible to report potential human rights breaches via the existing whistleblowing system 'Tell OSRAM' ➤ [3.4.2 Review of Suppliers, p. 22](#). As well as investigating each report, we want to systematically analyze the reports and derive appropriate measures from them. This is how we aim to raise awareness of this important topic within the organization and prevent human rights violations.

Action Taken and Results

Our departments continued to monitor the relevant national and international legal frameworks on human rights in fiscal year 2019. Our Human Rights Policy was published on our website in January 2019.

The OSRAM CONTINENTAL Code of Ethics contains requirements regarding respect for human rights but currently is not published externally ➤ [6.3 Fair Working Conditions, p. 51](#).

Human rights risks can be reported as part of the enterprise risk management process. Questions regarding human rights risks have also been included in the company level control questionnaire, which is used in the annual evaluation of the local control system of all consolidated entities by the relevant CEOs and CFOs. In the past fiscal year, a process for continually monitoring human rights risks and appropriate management processes was introduced to enable an annual risk assessment.

The volume of materials ordered for use in our electronic components and assembly in Malaysia and China, in particular, resulted in an increase in human rights risk ➤ [3.4.2 Review of Suppliers, p. 22](#). We are mitigating this risk by focusing our corporate responsibility (CR) audits on the regions concerned. Suppliers in high-risk countries are also required to provide a self-assessment. By choosing to work only with quality-focused partners and suppliers, especially in the field of optoelectronic components, we attempt to mitigate potential negative effects from the outset.

As part of the relationship with our existing suppliers, we again evaluated the results of the CR audits and/or other certifications that were requested in fiscal year 2019. We are working with our suppliers on continual improvement based on the findings of the analysis ➤ [3.4 Supply Chain Management—Objectives, Action Taken and Results, p. 23](#).

Details on how we deal with the risks of modern slavery in our business activities and our supply chain are set out in the 2017 OSRAM Modern Slavery Statement ➤ www.osram.com/modern-slavery-statement.] ✓

Human rights risk areas



(P) [Page <22>](#)
[Page <22>](#)
[Page <23>](#)

(P) [Page <51>](#)

[For the first time, it was also possible to report potential human rights breaches via the existing whistleblowing system ‘Tell OSRAM’ in fiscal year 2019. We received two notifications of possible violations in total in fiscal year 2019, with a geographical focus on the APAC region and concerning human rights matters. These reports were recorded and analyzed systematically, and no violation of human rights was identified in either case. We are currently working on measures, such as information material for managers and employees, to raise awareness of the new option to report human rights violations via ‘Tell OSRAM.’]

As part of our activities to promote respect for human rights, we also pursue region-specific topics that are identified by our risk analysis. Corporate responsibility in the supply chain, for example, was a topic of panel discussions at this year’s Supplier Day [3.4 Supply Chain Management—Objectives, Action Taken and Results, p. 23.](#)

7.1.1 Conflict Minerals

The OSRAM portfolio of products requires the use of substances that are classified as conflict minerals due to their potential origin [7.1 Respect for Human Rights, p. 60](#), and [5.6 Raw Materials and Substances, p. 42](#). We are aware of the associated risks and are mitigating them as follows.

Guidelines, Responsibilities, Structures, and Processes

We have also put appropriate due diligence processes for procurement in place in order to properly discharge our responsibilities with regard to the protection of human rights in the context of conflict minerals [7.1 Respect for Human Rights, p. 60](#). Responsibility for the issue of conflict minerals lies with the Purchasing department, which is assigned to the Chief Technology Officer (CTO) and reports directly to him. OSRAM has been a member of the Responsible Minerals Initiative (RMI) since 2017. The sharing of information and insights within the RMI is helping us to continuously improve our due diligence on conflict minerals. RMI training materials are available to our suppliers via an online training portal. When purchasing raw materials, OSRAM makes sure that it uses qualified sources. For example, all our directly commissioned smelters for conflict minerals are RMI certified.

Objectives, Action Taken, and Results

We strive for full transparency with regard to conflict minerals for our entire purchasing volume and are committed to dealing with the issue in accordance with OECD guidelines and the U.S. Dodd-Frank Act. 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. We support industry-wide multi-stakeholder initiatives that are aimed at preventing conflicts, human rights abuses, and violations of labor and environmental laws in our supply chain [3.4 Supply Chain Management, p. 21](#).

Our long-term objective is to establish conflict-free status for all products in the portfolio. We have already achieved this status for the product portfolio of the Opto Semiconductors business unit, and hope to maintain this status in the future. Our objective for fiscal year 2019 was to achieve a portfolio for the Automotive business unit that is free of conflict minerals.

To date, we have not yet fully succeeded in establishing, together with our suppliers, conflict-free status for all products in the portfolio. We have made some progress, but we did not manage to achieve conflict-free status for the portfolio of our Automotive business unit during the reporting period.]

(P) [Page <60>](#)

(P) [Page <23>](#)

(P) [Page <60>](#)
[Page <42>](#)

(P) [Page <21>](#)

7 . 2

Social Engagement

Wherever OSRAM is active, we want to assume responsibility for the world outside our business, to exert a positive impact, and to be perceived accordingly. We therefore engage at local level across the globe in initiatives that foster sustainable development and a prosperous society. Our social engagement activities follow a clear strategy and are aligned with our corporate values.

The OSRAM Group is committed to many different forms of social engagement, from cash, product and in-kind donations, support and sponsorship of cultural, social, educational and sports events or institutions, through to membership in associations, organizations and clubs. We have appointed one individual to take responsibility for each of the categories referred to. Rules relating to corporate citizenship are integrated in our Business Conduct Guidelines and are supported by guidelines covering specific topics **> 3.1.4 Memberships and Political Engagement, p. 15**. Voluntary activities qualify as a citizenship activity if they contribute to an improved social environment and if society as well as employees, customers, suppliers, or the Company itself benefit from them. The criteria of the London Benchmarking Group (LBG) define the framework for this. We also support our employees in their fundraising activities and their personal involvement in projects.

An online tool supports us in measuring the costs and success of our projects. This tool is also used for project approval. In some cases, this may also require clarification, e.g. about the intended social impact.

OSRAM CONTINENTAL is not part of the strategy and measures outlined in this chapter, but has initiated its own projects.

Action Taken and Results

In fiscal year 2019, as part of its social engagement activities, OSRAM provided a total of around €3.3 million (previous year: €3.2 million) in donations, sponsorship, and membership fees to citizenship projects, initiatives, organizations, and events. The selection of projects below provides an insight into the content and geographical area covered:

Examples of our social engagement



Education projects

- OSRAM sponsors the Welker Award, which recognizes outstanding global research in the field of compound semiconductors and was awarded for the 41st time in 2019.
- OSRAM supports university education and research by providing scholarships and technical equipment. Examples include the Germany Scholarship at two universities in Regensburg, Germany, research scholarships at universities in Malaysia, and laboratory equipment for the Wesleyan University and Boston University in the U.S.A.
- OSRAM works with the Hillsboro-Deering High School in New Hampshire, U.S.A. and again in fiscal year 2019 awarded scholarships to students looking to further their education in science, technology, engineering, or mathematics.
- At the Girls' Day, female schoolchildren in Munich were able to explore the many facets of light, take a look into the future, and talk to our experts about their education and careers.



Arts, culture, and sports projects

- As the market leader in the field of entertainment lighting, OSRAM once again supported the Eurovision Song Contest, this time in Tel Aviv, Israel. Culturally important buildings in the old quarter were placed center stage with a spectacular light show and the interactive involvement of locals and visitors via an app.
- Since 2013, OSRAM and ARRI have been presenting the ARRI/OSRAM Award at the annual Munich Film Festival to the best international film in the CineMasters category.
- OSRAM employees and their families met for the 45th Winter Sports Days and the presentation of the Trofeo Aldo Busch. Employees from twelve European locations attended in 2019. OSRAM uses sports to bring colleagues together and encourage intercultural dialog.



Social and humanitarian projects

- As an official global corporate partner of the German Red Cross, OSRAM has been supporting an innovative approach to anticipatory aid in natural catastrophes since 2016: Forecast-based Financing (FBF) uses forecasting models in order to provide targeted financial and humanitarian aid to regions particularly at risk before the disaster occurs.
- OSRAM is working with Boston Children's Hospital to support young patients and their families. In aid of this, there are activities across Boston and at our sites in the U.S.A. throughout the year.
- At our site in Wuxi, China, we are actively committed to combating poverty in local communities. Financial support, donations of materials, and volunteering by OSRAM and its employees again in fiscal year 2019 enabled schoolchildren to receive high-quality education.



8 . 0

Appendix

| | |
|--|-----------|
| 8.1 List of Material Topics | 65 |
| 8.2 Independent Auditor's Limited Assurance Report regarding Sustainability Information | 66 |
| 8.3 GRI Content Index | 68 |
| 8.4 Acknowledgments and Contact | 75 |

8 . 1 List of Material Topics

| Material Topics | GRI Topics | Potential Impact by OSRAM on the GRI Topics | Location of Impacts in the Value Chain |
|---|---|---|--|
| Greenhouse gases and climate change | Emissions | Direct and indirect | Within OSRAM and downstream |
| Energy efficiency | Energy | Direct | Within OSRAM and downstream |
| Raw materials and substances | Materials; Environmental Compliance | Direct and indirect | Within OSRAM |
| Human rights | Child Labor; Forced or Compulsory Labor; Human Rights Assessment; Procurement Practices; Supplier Social Assessment | Direct | Upstream and within OSRAM |
| Fair working conditions | Employment; Diversity and Equal Opportunities; Freedom of Association and Collective Bargaining | Direct | Upstream and within OSRAM |
| Occupational health and safety | Occupational Health and Safety | Direct | Upstream and within OSRAM |
| Employee satisfaction and employer attractiveness | Employment; Training and Education | Direct | Within OSRAM |
| People development | Training and Education | Direct | Within OSRAM |
| Product safety | Customer Health and Safety; Marketing and Labeling | Direct and indirect | Upstream, within OSRAM, and downstream |
| Protection and security of personal data | Customer Privacy | Direct | Downstream |
| Customer relationships | | Direct | Downstream |
| Combating corruption and bribery | Anti-corruption; Anti-competitive Behavior; Procurement Practices; Socioeconomic Compliance | Direct and indirect | Upstream and within OSRAM |

Details and further information are available on our website ➤ www.osram.com/sustainability.

8 . 2

Independent Auditor's Limited Assurance Report regarding Sustainability Information

The assurance engagement performed by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft (EY) relates exclusively to the German PDF version of the Sustainability Report 2019 of OSRAM Licht AG. The following text is a translation of the original German Independent Assurance Report.

To the Management Board of OSRAM Licht AG, Munich
We have been engaged to perform a limited assurance engagement on information marked with the symbol “[...] ⓘ” in the Sustainability Report of OSRAM Licht AG for the reporting period from 1 October 2018 to 30 September 2019 (hereafter “the report”).

Our engagement is exclusively limited to the information marked with the symbol “[...] ⓘ” in the German PDF version of the report. Our engagement did not include any pro-

spective statements or information for previous years. The report is published as a PDF version at ➤ www.osram.com/sustainability.

Management's responsibility

The legal representatives of OSRAM Licht AG are responsible for the preparation of the report in accordance with the criteria as set out in the Sustainability Reporting Standards of the Global Reporting Initiative (hereafter “GRI criteria”) and for the selection of the information to be assessed.

This responsibility includes the selection and application of appropriate methods to prepare the report and the use of assumptions and estimates for individual sustainability disclosures that are reasonable under the circumstances. Furthermore, the legal representatives are responsible for internal controls that they deem necessary for the preparation of a report that is free from—intended or unintended—material misstatements.

Auditor's statement regarding independence and quality

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.

Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft 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 [Beruf-

ssatzung 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)].

Auditor's responsibility

Our responsibility is to express a conclusion on information marked with the symbol “[...] ⓘ” in the report based on our work performed.

We conducted our limited 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" published by the International Auditing and Assurance Standards Board (IAASB). This standard requires that we plan and perform the assurance engagement to obtain a limited level of assurance to preclude that the information marked with the symbol “[...] ⓘ” in the report for the reporting period from 1 October 2018 to 30 September 2019 has been prepared, in all material respects, in accordance with the relevant GRI criteria.

We do not, however, issue a separate conclusion for each sustainability disclosure which is marked with the symbol “[...] ⓘ”. 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 December 2019, we performed amongst others the following assurance and other procedures:

- Inquiries of employees concerning the sustainability strategy, sustainability principles and sustainability management of OSRAM Licht AG,
- Inquiries of employees responsible for the preparation of information marked with the symbol “[...] Ø” in the report in order to assess the sustainability reporting system, the data capture and compilation methods as well as internal controls to the extent relevant for the limited assurance engagement,
- Identification of likely risks of material misstatement in the sustainability report,
- Inspection of relevant documentation of the systems and processes for compiling, analyzing and aggregating data in the relevant areas, e.g. Environmental Protection, Health and Safety in the reporting period and testing such documentation on a sample basis,
- Analytical evaluation of disclosures in the sustainability report at Group level,
- Inquiries and inspection of documents on a sample basis relating to the collection and reporting of selected data,
- Critical review of the draft report to assess plausibility and consistency with the information marked with the symbol “[...] Ø”.

Conclusion

Based on our limited assurance engagement, nothing has come to our attention that causes us to believe that the information marked with the symbol “[...] Ø” in the Sustainability Report of OSRAM Licht AG for the reporting period from 1 October 2018 to 30 September 2019 has not been prepared, in all material respects, in accordance with the GRI criteria.

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.

Engagement terms and liability

The “General Engagement Terms for Wirtschaftsprüfer and Wirtschaftsprüfungsgesellschaften [German Public Auditors and Public Audit Firms]” dated 1 January 2017 are applicable to this engagement and also govern our relations with third parties in the context of this engagement ([»www.de.ey.com/general-engagement-terms](http://www.de.ey.com/general-engagement-terms)). In addition, please refer to the liability provisions contained there in no. 9 and to the exclusion of liability towards third parties. We assume no responsibility, liability or other obligations towards third

parties unless we have concluded a written agreement to the contrary with the respective third party or liability cannot effectively be precluded.

We make express reference to the fact that we do not update the assurance report to reflect events or circumstances arising after it was issued unless required to do so by law. It is the sole responsibility of anyone taking note of the result of our assurance engagement summarized in this assurance report to decide whether and in what way this result is useful or suitable for their purposes and to supplement, verify or update it by means of their own review procedures.

Munich, 21 January 2020

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Nicole Richter
Wirtschaftsprüferin
(German Public Auditor)

Hans-Georg Welz
Wirtschaftsprüfer
(German Public Auditor)

8 . 3

• GRI Index
102-55

GRI Content Index

| DISCLOSURES | Page | COMMENTS | UNGC |
|---|-------|--|------|
| GRI 101 Foundation 2016 | | | |
| GRI 102 General Disclosures 2016 | | | |
| Organizational Profile | | | |
| GRI 102-1 Name of the organization | | OSRAM Licht AG | |
| GRI 102-2 Activities, brands, products, and services | 8 | | |
| GRI 102-3 Location of headquarters | 8 | | |
| GRI 102-4 Location of operations | 8 | | |
| GRI 102-5 Ownership and legal form | 8, 14 | Ownership: We publish any changes on our website: »https://www.osram-group.com/en/investors/regulatory-news | |
| GRI 102-6 Markets served | | | |
| GRI 102-7 Scale of the organization | | »2019 Annual Report, p. 58 | |
| GRI 102-8 Information on employees and other workers | | Not applicable: We are not publishing this indicator (permanent/temporary employees by region and numbers of part-time/full-time workers by gender) in full as the required depth of detail is not relevant to OSRAM's management of this topic. | |
| GRI 102-9 Supply chain | 21 | | |
| GRI 102-10 Significant changes to the organization and its supply chain | 3 | »2019 Annual Report, p. 13 | |
| GRI 102-11 Precautionary Principle or approach | | »2019 Annual Report, p. 34 | |
| GRI 102-12 External initiatives | 15/16 | | |
| GRI 102-13 Membership of associations | 15/16 | | |
| Strategy | | | |
| GRI 102-14 Statement from senior decision-maker | 4 | | |
| GRI 102-15 Key impacts, risks, and opportunities | 15/16 | | |

| DISCLOSURES | Page | COMMENTS | UNGC |
|--|---------------|--|------|
| Ethics and Integrity | | | |
| GRI 102-16 Values, principles, standards, and norms of behavior | 15 | | 10 |
| GRI 102-17 Mechanisms for advice and concerns about ethics | 15 | | 10 |
| Management Approach | | | |
| GRI 102-18 Governance structure | 14 | | |
| GRI 102-19 Delegating authority | 10 | | |
| GRI 102-20 Executive-level responsibility for economic, environmental, and social topics | 10 | | |
| GRI 102-21 Consulting stakeholders on economic, environmental, and social topics | 11/12 | | |
| GRI 102-22 Composition of the highest governance body and its committees | 14 | | |
| GRI 102-23 Chair of the highest governance body | 14 | » 2019 Annual Report, p. 151 | |
| GRI 102-24 Nominating and selecting the highest governance body | 14 | | |
| GRI 102-25 Conflicts of interest | 15 | » 2019 Annual Report, p. 151 | |
| GRI 102-26 Role of highest governance body in setting purpose, values, and strategy | 14 | | |
| GRI 102-27 Collective knowledge of highest governance body | 10 | » 2019 Annual Report, p. 144 | |
| GRI 102-28 Evaluating the highest governance body's performance | 15 | | |
| GRI 102-29 Identifying and managing economic, environmental, and social impacts | 11 | | |
| GRI 102-30 Effectiveness of risk management processes | | » 2019 Annual Report, p. 34 | |
| GRI 102-31 Review of economic, environmental, and social topics | | » 2019 Annual Report, p. 34 | |
| GRI 102-32 Highest governance body's role in sustainability reporting | | This report was checked and approved by the Managing Board. | |
| GRI 102-33 Communicating critical concerns | | » 2019 Annual Report, p. 56 | |
| GRI 102-34 Nature and total number of critical concerns | | » 2019 Annual Report, p. 56 | |
| GRI 102-35 Remuneration policies | 15 | | |
| GRI 102-36 Process for determining remuneration | 15 | | |
| GRI 102-37 Stakeholders' involvement in remuneration | | » 2019 Annual Report, p. 158 | |
| GRI 102-38 Annual total compensation ratio | | Not applicable: We are not publishing this information because it is not relevant to OSRAM's management of this topic. | |
| GRI 102-39 Percentage increase in annual total compensation ratio | | » 2019 Annual Report, p. 158 | |
| Stakeholder Engagement | | | |
| GRI 102-40 List of stakeholder groups | 11 | | |
| GRI 102-41 Collective bargaining agreements | 51/52 | | |
| GRI 102-42 Identifying and selecting stakeholders | 12 | | |
| GRI 102-43 Approach to stakeholder engagement | 11/12, 24, 57 | | |
| GRI 102-44 Key topics and concerns raised | 11/12 | | |

| DISCLOSURES | Page | COMMENTS | UNGC |
|--|------|---|----------|
| Reporting Approach | | | |
| GRI 102-45 Entities included in the consolidated financial statements | 11 | » 2019 Annual Report, p. 130 | |
| GRI 102-46 Defining report content and topic boundaries | 11 | | |
| GRI 102-47 List of material topics | 3 | | |
| GRI 102-48 Restatements of information | 3 | | |
| GRI 102-49 Changes in reporting | 3 | | |
| GRI 102-50 Reporting period | | October 1, 2018 – September 30, 2019 | |
| GRI 102-51 Date of most recent report | | January 30, 2019 | |
| GRI 102-52 Reporting cycle | | Annually | |
| GRI 102-53 Contact point for questions regarding the report | 75 | | |
| GRI 102-54 Claims of reporting in accordance with the GRI standards | 68 | The report was not subject to a GRI Materiality Disclosure Service this year. | |
| GRI 102-55 GRI content index | 66 | | |
| GRI 102-56 External assurance | | | |
| Material Topics | | | |
| GRI 201 Economic Performance 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 8 | | 1 – 6/10 |
| GRI 201-1 Direct economic value generated and distributed | 8 | » 2019 Annual Report, p. 58 | 1 – 6/10 |
| GRI 201-2 Financial implications and other risks and opportunities due to climate change | 25 | In the Report on Risks and Opportunities in the Annual Report (p. 34), we describe 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. We also describe the opportunities that may arise for OSRAM. The report does not look at climate change. The benefits arising from the energy efficiency of our products are described in chapter 4.1 Added Value for Customers. | |
| GRI 201-3 Defined benefit plan obligations and other retirement plans | | » 2019 Annual Report, p. 99 | 7 |
| GRI 201-4 Financial assistance received from government | | » 2019 Annual Report, p. 85 | |
| GRI 203 Indirect Economic Impacts 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 29 | | 6 |
| GRI 203-1 Infrastructure investments and services supported | 63 | | |
| GRI 203-2 Significant indirect economic impacts | 29 | | |
| GRI 204 Procurement Practices 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 21 | | |
| GRI 204-1 Proportion of spending on local suppliers | 24 | | |

| DISCLOSURES | Page | COMMENTS | UNGC |
|---|-------|--|------|
| GRI 205 Anti-corruption 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 16–19 | | 10 |
| GRI 205-1 Operations assessed for risks related to corruption | | All Group companies are subject to regular reviews of corruption risk as part of compliance risk assessments. Objective criteria are used to assign the Group companies to risk categories that determine whether they will be selected for review in a particular year. | 10 |
| GRI 205-2 Communication and training about anti-corruption policies and procedures | 19 | Not applicable: We are not publishing this indicator in full as the required level of detail (total number and percentage of governance body members that have received training on combating corruption, broken down by region and with a breakdown of employee numbers by category) is not relevant to OSRAM's management of this topic. | |
| GRI 205-3 Confirmed incidents of corruption and actions taken | 19 | | 10 |
| GRI 206 Anti-competitive Behavior 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 16–19 | | |
| GRI 206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices | 19 | | |
| GRI 301 Materials 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 42–45 | | |
| GRI 301-1 Materials used by weight or volume | | Not applicable: Further information is not relevant to OSRAM in this degree of detail and so is not recorded. | 7/8 |
| GRI 301-3 Reclaimed products and their packaging materials | | Not applicable: Because of the high number and diversity of materials groups, the information required under 301-3 is not relevant for OSRAM. | 8/9 |
| GRI 302 Energy 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 33–36 | | |
| GRI 302-1 Energy consumption within the organization | 35/36 | | 7/8 |
| GRI 302-3 Energy intensity | 35/36 | | 8 |
| GRI 302-4 Reduction of energy consumption | 35/36 | | |
| GRI 302-5 Reductions in energy requirements of products and services | 36 | | |
| GRI 303 Water 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 39/40 | | |
| GRI 303-1 Water withdrawal by source | 40 | | 8 |
| GRI 303-2 Water sources significantly affected by withdrawal of water | | We have not identified any significantly compromised sources within the meaning of 303-2. | 8 |
| GRI 305 Emissions 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 36–38 | | |
| GRI 305-1 Direct (Scope 1) GHG emissions | 38 | | 7/8 |
| GRI 305-2 Energy indirect (Scope 2) GHG emissions | 38 | | 7/8 |
| GRI 305-3 Other indirect (Scope 3) GHG emissions | 38 | | |
| GRI 305-4 GHG emissions intensity | 38 | | 8 |

| DISCLOSURES | Page | COMMENTS | UNGC |
|--|--------|--|------|
| GRI 305-5 Reduction of GHG emissions | 38 | | 8/9 |
| GRI 305-6 Emissions of ozone-depleting substances (ODS) | | OSRAM does not emit any ozone-depleting substances. | 8 |
| GRI 305-7 Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions | | OSRAM does not generally emit nitrogen oxides and sulfur oxides, but where it does the amounts are so negligible that we do not need to collect data on them. | 8 |
| GRI 306 Effluents and Waste 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 39–41 | Not applicable: We record more information about waste water, but we do not report it because it is not relevant to OSRAM's management of this topic. | |
| GRI 306-1 Water discharge by quality and destination | | | 8 |
| GRI 306-2 Waste by type and disposal method | 41 | | 8 |
| GRI 306-3 Significant spills | | There were no significant releases of hazardous substances in fiscal year 2019. | 8 |
| GRI 306-5 Water bodies affected by water discharges and/or runoff | | We discharge waste water into bodies of water in only a handful of cases. Where we do so, we hold the necessary licenses. | 8 |
| GRI 307 Environmental Compliance 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 33, 46 | | 8 |
| GRI 307-1 Non-compliance with environmental laws and regulations | 46 | | 8 |
| GRI 308 Supplier Environmental Assessment 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 21–23 | | |
| GRI 308-1 New suppliers that were screened using environmental criteria | 22/23 | | 7–9 |
| GRI 401 Employment 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 48 | | |
| GRI 401-1 New employee hires and employee turnover | 58 | | |
| GRI 403 Occupational Health and Safety 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 49/50 | | |
| GRI 403-2 Types of injury and rates of injury, occupational diseases, lost days and absenteeism, and number of work-related fatalities | 50 | We do not publish this information with this level of detail because the number of incidents is so small that a statistical breakdown would not add any significant value. | |
| GRI 404 Training and Education 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 53–55 | | |
| GRI 404-1 Average hours of training per year per employee | 54 | Roll-out of a new learning management system began in fiscal year 2019. As previously announced, we reviewed how we can record this performance indicator. The outcome of the review was negative, so the indicator is not applicable. | 6 |
| GRI 404-2 Programs for upgrading employee skills and transition assistance programs | 52–55 | | |
| GRI 405 Diversity and Equal Opportunity 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 55/56 | | |
| GRI 405-1 Diversity of governance bodies and employees | 56 | Information on the age and gender of the members of the governance bodies can be found at > www.osram.com/management . | 6 |
| GRI 405-2 Ratio of basic salary and remuneration of women to men | | There are no indications that people are treated unequally because of their gender. We are currently analyzing the data and are planning to publish the results of the analysis next year. | 6 |

| DISCLOSURES | Page | COMMENTS | UNGC |
|--|-------|---|------|
| GRI 406 Non-discrimination 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 51–53 | | |
| GRI 406-1 Incidents of discrimination and corrective actions taken | 52 | | |
| GRI 407 Freedom of Association and Collective Bargaining 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 51–53 | | |
| GRI 407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk | | As part of the planned expansion of our reporting on human rights, we intend to record information on this indicator in fiscal year 2020 as part of our new process for the continual assessment of human rights risks. | 1/3 |
| GRI 408 Child Labor 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 60–62 | | |
| GRI 408-1 Operations and suppliers at significant risk for incidents of child labor | | As part of the planned expansion of our reporting on human rights, we still intend to record information on this indicator in the medium term. | 1/5 |
| GRI 409 Forced or Compulsory Labor 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 60–62 | | |
| GRI 409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor | | As part of the planned expansion of our reporting on human rights, we still intend to record information on this indicator in the medium term. | 1/4 |
| GRI 412 Human Rights Assessment 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 60–62 | | |
| GRI 412-1 Operations that have been subject to human rights reviews or impact assessments | 61 | | 1/2 |
| GRI 412-2 Employee training on human rights policies or procedures | | Not applicable: The figure is not recorded systematically. Employees receive training on the topic at various events, such as the town hall meeting of the Procurement department. | |
| GRI 413 Local Communities 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 63 | | |
| GRI 413-1 Operations with local community engagement, impact assessments, and development programs | 63 | | |
| GRI 413-2 Operations with significant actual and potential negative impacts on local communities | | There are no OSRAM facilities that have or could have significant negative impacts on local communities. | |
| GRI 414 Supplier Social Assessment 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 21–24 | | 2 |
| GRI 414-1 New suppliers that were screened using social criteria | 24 | | 2 |
| GRI 414-2 Negative social impacts in the supply chain and actions taken | 23 | | |
| GRI 415 Public Policy 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 15/16 | | |
| GRI 415-1 Political contributions | 15/16 | | 10 |

| DISCLOSURES | Page | COMMENTS | UNGC |
|---|--------------|----------|------|
| GRI 416 Customer Health and Safety 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 27, 30/31 | | |
| GRI 416-1 Assessment of the health and safety impacts of product and service categories | 27, 30/31 | | 1 |
| GRI 416-2 Incidents of non-compliance concerning the health and safety impacts of products and services | 31 | | |
| GRI 417 Marketing and Labeling 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 30/31, 42–44 | | |
| GRI 417-1 Requirements for product and service information and labeling | 43–45 | | |
| GRI 418 Customer Privacy 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 19–21 | | |
| GRI 418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data | 21 | | |
| GRI 419 Socioeconomic Compliance 2016 | | | |
| GRI 103 Management Approach 2016 (including GRI 103-1, 103-2, 103-3) | 14–19 | | |
| GRI 419-1 Non-compliance with laws and regulations in the social and economic area | 19 | | |

8 . 4

Acknowledgments and Contact

8.4.1 Editorial Notes

This report is published online in German and English. The editorial deadline was January 14, 2020.

The Annual Report and the Sustainability Report are available in German and English and can be downloaded at
» www.osram-group.com.

8.4.2 Forward-looking Statements

In addition to a retrospective analysis, this report contains forward-looking statements and information, i.e. statements about events that lie in the future rather than the past. These are based on information available today and on assumptions based on current forecasts, which means they are subject to various risks and uncertainties. Accordingly, forward-looking statements should not be relied upon as a prediction of actual results.

Due to rounding, numbers presented in this and other reports may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures to which they relate.

8.4.3 Publisher and Contact Details

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