

# Sustainability Report

supplementing the 2019 Annual Report



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We are shaping the future.  
With innovation and precision.

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**RAXTRON**

Our technology. Your future.



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Dr. Felix Grawert and Dr. Bernd Schulte · Executive Board of AIXTRON SE

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*"AIXTRON is promoting energy efficiency – with its technologies, and with the products its customers make by working with them, such as LED and power semiconductors."*

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## Foreword

Ladies and Gentlemen,

In 2019, AIXTRON successfully upheld its leading position with compound semiconductors in its core markets of optoelectronics and power electronics. As an innovative technology leader, we continue to be a reliable and valued partner to our customers.

Alongside economic factors, one topic that is especially important to AIXTRON is sustainability, and here in particular climate protection. To address this, we have maintained an ongoing dialog with our stakeholders for years now. In this Sustainability Report, we present our strategies in detail for the third time and also report on the progress made in 2019.

We attach great priority to making sure that the ecological footprint left by our business activities is as small as possible and to minimizing our CO<sub>2</sub> emissions. We are therefore pleased to have reached key targets in our commitment to sustainability in the past financial year.

AIXTRON has been climate neutral since last year 2019. On the one hand, we procure our electricity solely from renewable energy sources. On the other hand, we support two certified climate protection projects meeting the highest quality standards (you can find details about these on our [website](#)). This way, we save exactly the volume of CO<sub>2</sub> that corresponds to the unavoidable emissions of our business activities.

We are continually working on further developing our technologies. These should assist both our own direct customers in the semiconductor industry and their customers and products to reduce energy consumption ever further. We see

ourselves as a strategic partner to our customers and offer them extensive support in achieving their own climate protection targets. In joint research projects, we work with them to develop the technologies of the future. Among others, these include numerous applications in the field of power electronics, where we aim to harness the potential of key materials such as gallium nitride and silicon carbide for an optimized energy supply in various products, as well as further enhancements in the performance capacity of solar cells and the development of ultra-efficient LEDs.

We are creating an attractive and secure working environment based on the highest social standards. We particularly cherish a culture of innovation. Clear and dependable management conduct is just as important to us as diversity and equal opportunities. After all, we know that AIXTRON's future is first and foremost to be found in the hands and minds of our global workforce of around 700 employees. Their ideas, expertise, and commitment are crucial as the foundation for our success. Consistent with our efforts to be an attractive and modern employer, in the year under report we installed fast charging points for electric cars and electric bikes. This way, our employees can enjoy a CO<sub>2</sub>-free ride to work.

Yours faithfully



Dr. Felix Grawert and Dr. Bernd Schulte  
Executive Board of AIXTRON SE



01

**General Disclosures  
2019**

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## >About this report – general Information

In this separate Sustainability Report, AIXTRON informs its stakeholders about the Group's environmental and social performance, as well as about its sustainability strategy and the progress made in implementing its sustainability goals in the 2019 year under report.

AIXTRON's economic disclosures and performance for the 2019 financial year are published in the Annual Report.

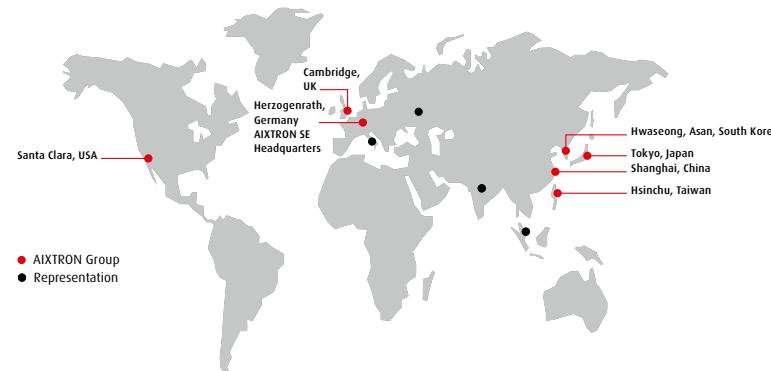
The reporting period corresponds to the 2019 financial year, i.e. the period from January 1, 2019 to December 31, 2019. Thanks to the gradual development in our reporting, for the "Environment" and "Employees" reporting topics we were able to obtain a full basis of data for all our sites for the first time in 2018. Conversely, this means that not all disclosures are consistently comparable with those for previous years.

The report covers the following AIXTRON Group sites and subsidiaries. These mainly include:

- ▶ AIXTRON SE, Germany
- ▶ AIXTRON Ltd., UK
- ▶ AIXTRON Korea Co. Ltd., South Korea
- ▶ AIXTRON K.K., Japan
- ▶ AIXTRON China Ltd., China
- ▶ AIXTRON Taiwan Co. Ltd., Taiwan
- ▶ AIXTRON, Inc., USA
- ▶ APEVA Co. Ltd., South Korea
- ▶ APEVA SE, Germany

As of December 31, 2019, AIXTRON had manufacturing facilities and R&D sites both in Herzogenrath and in Cambridge (UK), as well as sales and service offices in Asia and the USA. Most of our employees work at our sites in Germany and the UK. Our reporting therefore focuses on these two locations.

OVPD development activities at the Herzogenrath site have been assigned to a standalone company (APEVA SE).



## Ω Framework and reporting

In compiling this Sustainability Report, we were guided by the Sustainability Reporting Standards of the Global Reporting Initiative (GRI) and the principles set out in the “Core” option. The GRI index at the end of the report provides information as to the allocation of contents to the framework requirements. You can find explanations accompanying the information and projects presented in this report on AIXTRON’s website.

This report also includes key figures recorded for the first time in the 2019 year under report. As no data is yet available to us for previous years, it is not possible to compare these key figures with previous years. Where applicable, this circumstance is indicated accordingly.

With our separate Non-Financial Report, we meet all requirements incumbent on us pursuant to § 315b (1–3) of the German Commercial Code (HGB). All text passages, tables, and charts in the Sustainability Report that are allocated to the Non-Financial Report, are indicated by the letter omega (Ω). For this purpose, GRI-based materiality was “mapped” onto HGB-based materiality. As a result, not all of the disclosures made in this report are necessarily part of the separate Non-Financial Report. References to disclosures made in the Management Report form part of the Non-Financial Report.

We are obliged pursuant to § 289c (3) HGB to review topics in respect of “double materiality”. This requires disclosures to be made on non-financial aspects if two criteria are met: Firstly, the disclosures are needed to understand the company’s

business performance, results, and position. Secondly, the disclosures facilitate understanding of how the company’s business activities impact on non-financial aspects. We review the topics identified in respect of their “double materiality”. The topics meeting this definition are indicated within the report by the letter omega (Ω). These topics are linked to the respective chapters in this report.

We have not identified any “material risks” of our products and services which have or will have “very probable severe negative implications” – consistent with the definitions provided in § 289c (2) and (3) and § 315c HGB – in connection with our own business activities or our business relationships.

The non-financial disclosures and key figures on our sustainability activities presented in this report were subject to an independent limited assurance audit by Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Düsseldorf (Germany) with due application of the audit standard applicable to sustainability reporting (ISAE 3000).

## Ω Sustainability management

AIXTRON bases its sustainability management on the precautionary principle. This involves acting early to identify and eliminate or reduce any potential adverse effects on people and the environment resulting from AIXTRON's business activities. This applies both to the production of our equipment and to our supply chain. AIXTRON has an effective organizational structure and management systems in place to manage issues such as resource conservation, occupational safety, respect for human rights, and climate protection. We make every effort to ensure that applicable laws and our own guidelines are complied with at all times and have established an internal compliance management system for this purpose.

The internal CSR Workgroup initiated in 2018 and led by the Executive Board comprises managers with relevant responsibilities in a wide variety of specialist departments. The workgroup met four times in 2019 and can report successful activities. Its aim is to strategically develop sustainability topics and thus safeguard the company's future operating capacity and value on a long-term basis. The workgroup is regularly informed of the progress made with individual projects and also promotes these within the company. Among others, these included the development of a CSR Policy, which was adopted in the year under report. Furthermore, the CSR Workgroup is also responsible for fostering awareness of sustainable business practice and communicating this throughout the company.

## Editorial note

We refer throughout this report to employees. This naturally refers to employees of all genders: female, male and diverse.

## Ω Organizational profile

The AIXTRON Group ("AIXTRON" or "the Company") is a leading provider of deposition equipment to the semiconductor industry. The Company was founded in 1983 and is headquartered in Herzogenrath (Aachen City Region), Germany, with subsidiaries and representative offices in Asia, the USA, and Europe. The company's products are used worldwide by a wide range of customers to manufacture high-performance components for electronic and optoelectronic applications based on compound or organic semiconductor materials. These components are used in a variety of innovative applications, technologies and industries. These include, for example, LED and display technology, data transmission, sensor technology, energy management and conversion, communication, signal and lighting technology, and many other sophisticated high-tech applications.

AIXTRON markets and sells its products worldwide, primarily via its own sales organization, but also via sales representatives and authorized distributors. AIXTRON's business activities include the development, production and installation of equipment for the deposition of complex semiconductor materials, the development of process technologies, consulting and training, as well as customer support and service.

Demand for our products is significantly influenced by a further increase in processing speed, rising energy efficiency requirements, and the need to reduce the cost of existing and future power and optoelectronic devices.

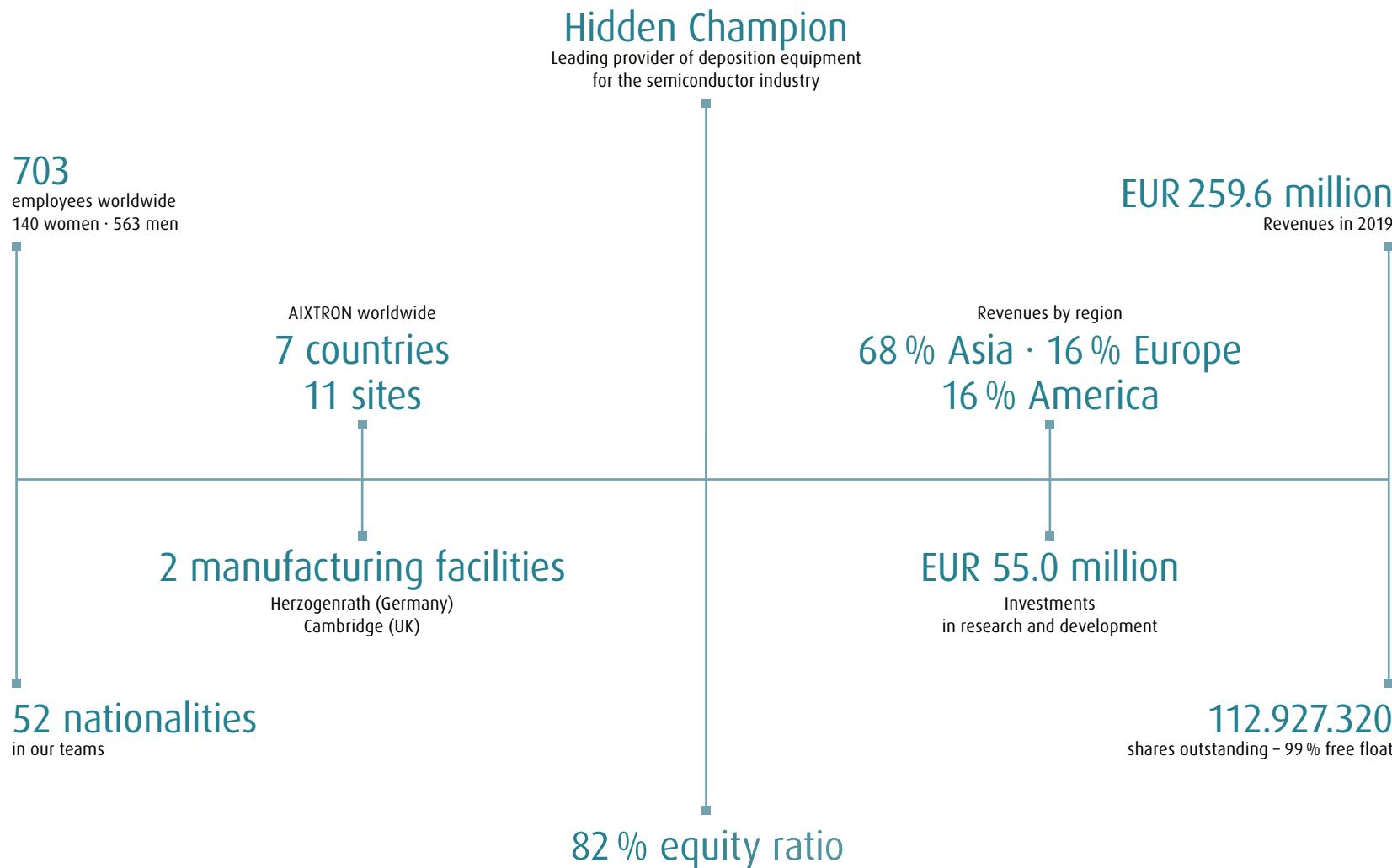
With our unique material coating technologies, we enable our customers to improve the performance and quality of advanced power and optoelectronic devices and raise production yields.

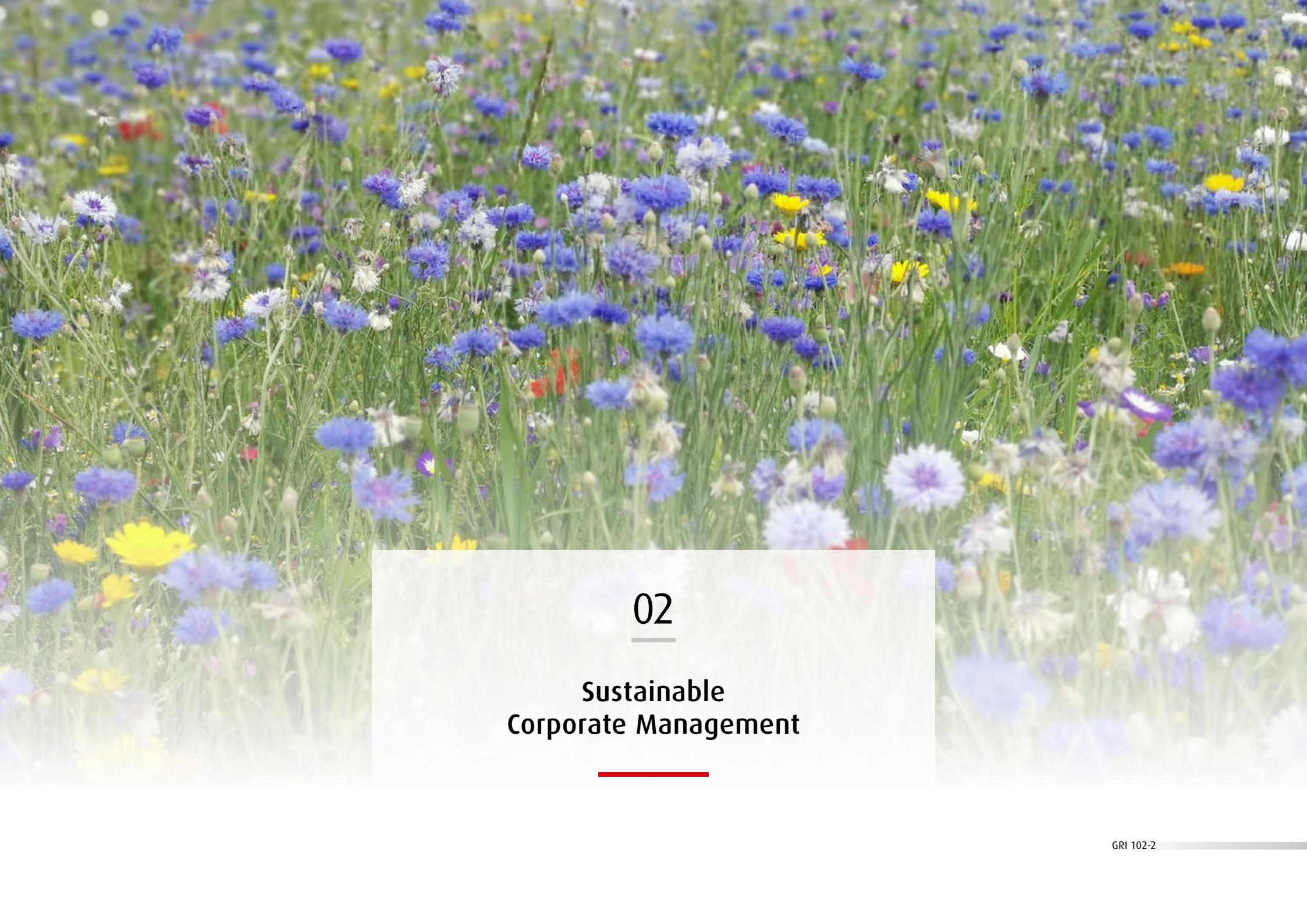
Further information about the company's business activities can be found in the Group Management Report of the AIXTRON Group, which is available under "Publications (Annual and Quarterly Reports)" in the Investors section of our [website](#).

We refer in particular to the more detailed information on the structure and management of the company provided in the first two chapters of the current Annual Report of the AIXTRON Group.

Site	Country	Utilization (2019)	Size (approx.)	Share of employees
Herzogenrath	Germany	Company headquarters, production, R&D	12,457 m <sup>2</sup>	Europe 90 %
Herzogenrath		Production, construction, R&D	16,000 m <sup>2</sup>	
Cambridge	UK	Production, construction, R&D	2,180 m <sup>2</sup>	USA 1 %
Cambridge		Customer service, construction	696 m <sup>2</sup>	
Santa Clara	USA	Sales and service	491 m <sup>2</sup>	Asia 9 %
Hwasung	South Korea	Sales and service	1,151 m <sup>2</sup>	
Asan		R&D	366 m <sup>2</sup>	
Shanghai	China	Sales and service	594 m <sup>2</sup>	
Hsinchu	Taiwan	Sales and service	568 m <sup>2</sup>	
Tainan		Customer service	109 m <sup>2</sup>	
Tokyo	Japan	Sales and service	364 m <sup>2</sup>	

Overview of sites per country, including utilization, size and regional distribution of employees





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## Sustainable Corporate Management

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## **Corporate social responsibility strategy**

Corporate Social Responsibility (CSR), or sustainability, has become an important principle of corporate management in recent years. In our view, sustainability means assuming responsibility for social, economic, and ecological issues. We are committed to sustainable and responsible value creation.

AIXTRON SE is governed by German stock corporation law. The company is managed by its Executive Board which, as the key management body, is bound by the company's interests. The Executive Board determines the company's strategic alignment and sees to its implementation. It bears joint responsibility for managing the business and decides on fundamental matters of business policy, corporate strategy, and annual and multiyear planning. In this, the Executive Board accounts for the interests of key stakeholder groups. Furthermore, the Executive Board is responsible for compliance with legal requirements and internal company guidelines. For this purpose, the Executive Board is required to ensure that the company has an appropriate risk management and control system.

The Executive and Supervisory Boards work together closely. The Supervisory Board monitors and advises the Executive Board in its management of the business. To this end, the Executive Board regularly informs the Supervisory Board about all relevant matters of corporate strategy and planning, the business performance, the company's financial and earnings position, compliance, and material business risks.

A mandatory Code of Conduct provides an important basis for ensuring Group-wide compliance with legal and ethical rules and principles by all employees and managers. This is based on strict compliance with applicable legal regulations and the principle of sustainability, i.e. balancing and combining economic, ecological, and social considerations. Our aim is to integrate an awareness of and a commitment to sustainability across all areas and processes at the company.

Further details can be found in the "Corporate Governance" section of the Annual Report on page 22 onwards.

## Ω Key stakeholders

AIXTRON accords priority to maintaining close relationships with its customers and employees. As AIXTRON is a publicly listed company, the capital market and its players also constitute material stakeholder groups.

Identifying the most important stakeholders and their interests is crucial for any successful stakeholder dialog. Stakeholders are categorized and prioritized by reference to the following criteria:

- ▶ Stakeholder interests
- ▶ Stakeholder influence
- ▶ Stakeholder expectations in AIXTRON
- ▶ Stakeholder dependence on AIXTRON
- ▶ Value for AIXTRON of entering into contact with these stakeholders.

Key stakeholder identification and categorization is regularly reviewed and updated in specific cases, as the list of stakeholders may change in line with new technologies, markets, customers, regulations, and developments within society.

## Ω Stakeholder engagement

As a company with international operations, AIXTRON forms part of an interactive relationship between the environment and the wide-ranging interests of its various stakeholders as a result of its research and development activities, and the production and sale of its products. To familiarize itself with these interests and enable these to be taken into account, we maintain a regular dialog with the most important stakeholders: customers, employees, shareholders, suppliers, government bodies and political players, the media, and science and research. We are receiving more frequent inquiries about various sustainability-related topics from representatives of the capital market, for example.

In dialog with our stakeholders, we attempt to understand their viewpoints, build trust, and reinforce existing partnerships. This helps us to recognize what steps are possible and necessary and what stakeholders expect of us. At the same time, the company uses this dialog to communicate the scope it sees to address social concerns and environmental issues and to present the underlying requirements and conditions that are important to us.

## Stakeholder engagement and forms of stakeholder dialog at AIXTRON

Stakeholder	Topic of dialog	Forms of dialog		
Capital market	<ul style="list-style-type: none"> <li>▶ Business performance</li> <li>▶ Product innovations</li> <li>▶ Application possibilities</li> </ul>	<ul style="list-style-type: none"> <li>▶ Strategy</li> <li>▶ Sustainability</li> </ul>	<ul style="list-style-type: none"> <li>▶ Road shows and (telephone) conferences</li> <li>▶ Quarterly reporting</li> <li>▶ Annual financial statements and annual report</li> </ul>	<ul style="list-style-type: none"> <li>▶ Annual General Meeting</li> <li>▶ Sustainability reporting</li> <li>▶ Company visits</li> </ul>
Customers	<ul style="list-style-type: none"> <li>▶ Product quality and safety</li> <li>▶ Sustainable technologies</li> <li>▶ Product energy efficiency</li> </ul>	<ul style="list-style-type: none"> <li>▶ Human rights</li> <li>▶ Compliance</li> </ul>	<ul style="list-style-type: none"> <li>▶ Audits</li> <li>▶ Expert support</li> <li>▶ AIXTRON after-sales activities</li> <li>▶ Product requirements</li> </ul>	<ul style="list-style-type: none"> <li>▶ Joint development with customer</li> <li>▶ Fairs and conferences</li> </ul>
Suppliers and business partners	<ul style="list-style-type: none"> <li>▶ Product quality and safety</li> <li>▶ Environmental protection</li> </ul>	<ul style="list-style-type: none"> <li>▶ Responsible purchasing</li> <li>▶ Compliance with AIXTRON standards</li> </ul>	<ul style="list-style-type: none"> <li>▶ Supplier evaluation</li> <li>▶ Purchasing principles</li> </ul>	<ul style="list-style-type: none"> <li>▶ Conflict minerals</li> </ul>
Employees	<ul style="list-style-type: none"> <li>▶ Health and safety</li> <li>▶ Career advancement</li> <li>▶ Co-determination</li> <li>▶ Training opportunities</li> </ul>	<ul style="list-style-type: none"> <li>▶ Compensation and benefits</li> <li>▶ Work-life balance / parental leave</li> <li>▶ Diversity &amp; equal opportunities</li> </ul>	<ul style="list-style-type: none"> <li>▶ Intranet</li> <li>▶ Staff meetings</li> <li>▶ Internal publications</li> <li>▶ Cooperation with Works Council</li> </ul>	<ul style="list-style-type: none"> <li>▶ Suggestions for operational improvements</li> <li>▶ Training and development</li> </ul>
Science and university	<ul style="list-style-type: none"> <li>▶ Development of new technologies</li> <li>▶ Promotion of research and teaching</li> </ul>	<ul style="list-style-type: none"> <li>▶ Networking of industry and research</li> <li>▶ Recruitment / PhD students</li> </ul>	<ul style="list-style-type: none"> <li>▶ Teaching assignment</li> <li>▶ Research projects</li> <li>▶ Fairs &amp; conferences</li> </ul>	<ul style="list-style-type: none"> <li>▶ University group visits</li> <li>▶ Allocation of doctoral positions</li> </ul>
Media representatives	<ul style="list-style-type: none"> <li>▶ Innovation and technologies</li> <li>▶ Semiconductor technology</li> </ul>	<ul style="list-style-type: none"> <li>▶ AIXTRON as employer</li> <li>▶ Financial position</li> </ul>	<ul style="list-style-type: none"> <li>▶ Interviews</li> <li>▶ Press releases</li> </ul>	<ul style="list-style-type: none"> <li>▶ Company receptions</li> </ul>
Associations and organizations	<ul style="list-style-type: none"> <li>▶ Eco-efficiency</li> <li>▶ Innovation and technology promotion</li> </ul>	<ul style="list-style-type: none"> <li>▶ Economic and labor policy</li> </ul>	<ul style="list-style-type: none"> <li>▶ Meetings and committees</li> </ul>	<ul style="list-style-type: none"> <li>▶ Participation in forums and events</li> </ul>

## Materiality analysis

In 2018, AIXTRON once again analyzed the main economic, ecological, and social aspects that have a significant influence on the company from an internal and external perspective. We still view the results of this analysis as being up-to-date. Strategically relevant topics were identified in the form of a materiality matrix based on the guidelines of the Global Reporting Initiative (GRI) and the criteria set out in § 289c of the German Commercial Code (HGB).

Aspects (as per § 289c (3) HGB)	CSR action focus at AIXTRON	Page
Environmental concerns	Resource efficiency	<a href="#">19</a>
Employee concerns	Employee health, Personnel development Training and development	<a href="#">32</a>
Social concerns	Promoting the common good	<a href="#">43</a>
Respecting human rights	Supplier relationships No purchase of conflict minerals	<a href="#">47</a>
Combating corruption and bribery	Compliance codes and guidelines Protection of personal data	<a href="#">51</a>

The above table presents the aspects pursuant to § 289c (3) HGB and the main areas of action at AIXTRON SE. These were identified on the basis of the materiality matrix and allocated to the aspects.

To this end, the potential factors influencing these topics were stated and assessed from the perspective of the company and its stakeholders. This iterative process led to the setting of several material action points on which the company has focused its sustainability approach and which it presents in greater detail in this Sustainability Report. Future dialogs with stakeholders will build on these results.

As the materiality matrix is currently being revised, we have foregone presenting it separately. We plan to publish this in our next Sustainability Report.

## Our values, standards, and guidelines

Our values provide the basis for all of the company's activities. They determine employees' behavior towards each other at the company and towards customers and partners. With target-driven actions, we aim to ensure that we always occupy a leading position, act with foresight, and actively provide momentum for the future.

Open communications and approachability ensure a healthy corporate culture, one in which the AIXTRON Group lives up to its responsibility.

## Management principles

The management principles are important elements of our management culture and provide an important framework for all managers at the company. They require all managers to identify customers' needs and, on this basis, to derive clear, performance-oriented company targets.

Decisions are taken on a sustainable basis in order to secure the company's future. Our managers strive to act as role models and to encourage employees to assume responsibility. This approach is accompanied by efforts to achieve continuous improvements by working with a culture of constructive feedback based on partnership.

## Involvement in associations and organizations

We are involved in a large number of organizations and associations with the aim of advancing sustainable developments in photonics and semiconductor technology. We were founding members of Photonics21, now a private public partnership (PPP) with the European Commission, and the International Solid State Lighting Alliance (ISA) in China, and have been actively promoting their further development for years.

## Involvement in associations and organizations

Organizations / Associations	Function/Committee	Thematic focus	Headquarters of organization / association
ISA, International Solid State Lighting Alliance	Founding member	Promoting sustainable development and application of LED solid state lighting.	Shanghai, China
Responsible Minerals Initiative	Active member of the "Smelter Engagement Team" for Europe and Africa	Identification of all worldwide melts aimed at ensuring responsible mineral procurement by the companies.	Alexandria, USA
DGKK, Deutsche Gesellschaft für Kristallwachstum und Kristallzüchtung e.V.	Member	Promoting research, teaching, and technology in crystal growth, crystal breeding, and epitaxy.	Erlangen, Germany
DPG, Deutsche Physikalische Gesellschaft	Supporting member in Industry and Business Workgroup (AIW) *)	Promoting contacts and dialog in physics and industry with a focus on training physicists during their studies. Participation in the DPG's "Tag vor Ort" (Day on Site) visit and lecture program for young physics students.	Bad Honnef, Germany
IVAM e.V.; Internationaler Fachverband für Mikrotechnik	Member	Technology marketing for innovative technologies and products of high-tech industries.	Dortmund, Germany
EPIC, European Photonics Industry Consortium	Member	Promoting the sustainable development of photonics in Europe.	Paris, France
OE-A - Organic and Printed Electronics Association (VDMA)	Member	Promoting the development of a competitive production infrastructure for organic and printed electronics.	Frankfurt/Main, Germany
OLED Association (OLED-A)	Member	Promoting the faster development of OLED technology (Organic Light Emitting Diodes) and OLED products.	Houston (Texas), USA
Photonics-21 (European Private Public Partnership)	Founding member and member of Board of Stakeholders	PPP aimed at securing Europe's leading role in the development and introduction of photonics technologies in various fields of application.	Düsseldorf, Germany
SEMI/FlexTech, Semiconductor Equipment and Materials International	Member	Promoting access to regional markets and opening up diversified business opportunities, as well as promoting the growth and progress of emerging economies and adjacent technology markets.	Milpitas (California), USA
NanoMikroWerkstoffePhotonik e.V. NMWP e.V.	Member of Board	Promoting the development of new ideas, projects and partnerships in the fields of nanotechnology, microsystems technology, tools, materials, and photonics.	Düsseldorf, Germany

List of most important memberships in industry or other associations. \*) See [Page 44](#) ("Social commitment") for an example of promoting cooperation.

**Worldwide customers** use our products to **manufacture high-performance components** for electronic and optoelectronic applications based on compound and organic **semiconductor materials**.

Components manufactured on our systems are used here:

- ▶ Fiber optic communications networks
- ▶ Wireless and mobile communication
- ▶ Sensors
- ▶ Signal and lighting technology
- ▶ Displays
- ▶ Numerous other high-tech applications

## 3 fields of technology

Compound semiconductors (MOCVD)  
Organic Light Emitting Diode (OLED)  
2D nanotechnology ((PE)CVD)

Increasing **processing speeds**, growing **energy efficiency** requirements, and the need to **reduce costs** are driving demand for **AIXTRON's unique material coating technologies**

### Nanotechnology

Massachusetts Institute  
of Technology, USA  
University of Manchester, UK

### Compound semiconductors (electronics)

Infineon Technologies AG,  
Germany  
Sumitomo Electric Device Innovations,  
Inc., Japan

### Compound semiconductors (lasers)

OSRAM Opto Semiconductors , Deutschland  
Epilworld, China  
IQE Ltd., UK  
Finisar, USA

### Compound semiconductors (LED)

Changelight, China  
Epistar Corporation, Taiwan  
Applied Optoelectronics Inc., USA  
San'an Optoelectronics Co., Ltd., China  
Nagoya University, Japan  
PlayNitride, Taiwan

### Compound semiconductors (solar cells)

AZUR SPACE Solar Power GmbH,  
Germany

- AIXTRON:**
- ▶ Development, production, and installation of equipment for the deposition of complex semiconductor materials
  - ▶ Development of process technologies
    - ▶ Consulting and training
    - ▶ Customer care and service

## CUSTOMER EXAMPLES



03

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**Environment**

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## AIXTRON technology supports climate protection

Electronics form the basis for further developments in megatrends, such as mobility, the energy supply, and communications. Ever more applications used in daily life are being digitalized. Meanwhile, electric vehicles are increasingly reaching the mass market. These developments are increasing global energy requirements.

This is where AIXTRON's technology comes into play: Components produced by our customers using AIXTRON equipment can be found in numerous innovative applications, technologies and industries, all of which are countering the trend towards higher energy consumption. Among others, these include lasers, LED and display technologies, energy management and conversion, communications, signal and lighting technology, and numerous other sophisticated high-tech applications that facilitate efficient energy use.

## Modern and innovative power semiconductors promote energy efficiency

One key to making more efficient use of energy involves power electronics. Working with new materials such as gallium nitride (GaN) and silicon carbide (SiC), these make it possible to run servers and data centers efficiently, charge mobile terminals such as smartphones and laptops rapidly and on a wireless basis, power electric vehicles, exchange data between machines in real time, and transmit videos very rapidly ("streaming") while at the same time even reducing energy consumption. This way, we are making an important contribution towards combating global climate change.

### **UltimateGaN – smaller, energy-efficient chips at marketable costs**

In this project, AIXTRON is drawing above all on its outstanding expertise as an equipment manufacturer. Production of the top-quality wafers in the MOCVD (metalorganic chemical vapor deposition) process, from which the chips for further research are then cut in the next production stage, is performed on the AIXTRON equipment at the Infineon plant in Villach (Austria).

### **Benefits for renewable energy, e-mobility, and faster data transfer**

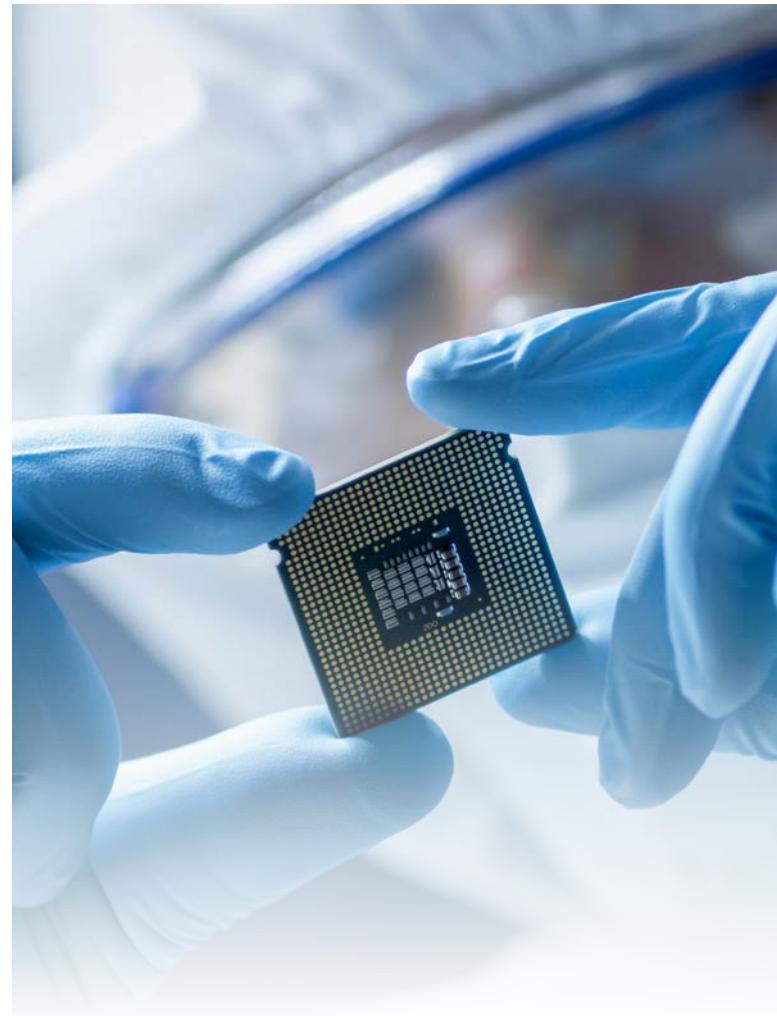
In future, these new energy-saving chips will benefit numerous applications in which the key parameters are lower energy consumption, more compact construction sizes, or rapid data transfer. The research project will provide fresh impetus for the energy efficiency of high-performance servers and other IT infrastructure appliances. The power loss is significantly reduced due to the higher switching efficiency of power components made of gallium nitride (GaN). This lowers electricity consumption and CO<sub>2</sub> emissions. The new 5G wireless standard and ultrafast video loading are supported, as is real-time traffic flow management for autonomous driving or, under the catchword of Industry 4.0, frictionless communication between machines.

### AIXTRON is researching the chips of the future

As one of the world's leading providers of deposition equipment to the semiconductor industry, AIXTRON is a partner in the European research project "UltimateGaN". Based on the semiconductor material of gallium nitride (GaN), AIXTRON is cooperating with 25 other companies and institutions to research the next generation of energy-saving chips.

The aim is to make these energy-efficient power semiconductors available for numerous applications and at competitive costs. The project is therefore making a major contribution towards increasing energy efficiency and reducing CO<sub>2</sub> emissions.

With a volume of EUR 48 million, UltimateGaN is currently one of the largest European research projects in the field of semiconductor development.



## Active climate protection at AIXTRON

### Ω AIXTRON is climate neutral

We attach great priority to making sure that the environmental footprint of our business activities is as small as possible and to minimizing the release of emissions of CO<sub>2</sub> harmful to the climate. In recognition of its energy management, AIXTRON received the Energy Efficiency Award from the German Energy Agency (dena) in 2017.

This year we have taken a step forward in climate protection: In order to avoid impacting our climate as much as possible, we've been sourcing all our electricity from renewable sources in Europe and the United States since 2019, thereby making an important contribution to avoiding greenhouse gas emissions. Not only that, our remaining CO<sub>2</sub> emissions, such as those caused by business travel, company vehicles, and heating buildings, have been offset by means of certified climate protection projects.

### Ω Support for climate protection projects in South America and Africa

To offset the CO<sub>2</sub> emissions we incur, we are supporting two certified climate protection projects in **Peru** and **Uganda**. The project in Peru involves a forest conservation project in the Amazon region of Madre de Dios. In close cooperation with local residents, measures and initiatives are being implemented to use the forest on a sustainable basis and access alternative sources of income for the population. This way, the area is being protected against deforestation.

In the second project, in Uganda, we are supporting the distribution of energy-efficient stoves for private households. These help families to save up to 50 % of the fuel and thus reduce the concentration of harmful substances in the air in kitchens and living rooms. Details about the projects we are supporting can be found on our [website](#).

### The principle of CO<sub>2</sub> offsetting

The offsetting of CO<sub>2</sub> emissions is based on the global climate balance principle: Where in the world the emissions arise and where they are saved makes little difference to the climate. That makes it possible to offset unavoidable emissions arising at one place in the world with additional climate protection measures somewhere else. Within the Kyoto Protocol, the "clean development mechanism" created under the United Nations Framework Convention on Climate Change in 2007 provided a standardized process for CO<sub>2</sub> offsetting that is now universally recognized. Offsetting emissions this way can complement measures taken to reduce avoidable greenhouse gas emissions and make an important contribution towards achieving the targets set out in the Paris Climate Protection Agreement.

## Ω Systematic energy management at AIXTRON

The analysis of actual energy flows and consumption showed which energy potential had so far remained untapped. The German Energy Agency (dena) has calculated that, by consistently exploiting the technologies currently available, energy consumption and costs for industrial process and space heating in Germany could be reduced by an average of 15 % across all sectors of industry. We have already sustainably reduced our energy consumption by implementing various projects. We received impressive confirmation of this in 2017, when we won the international dena Energy Efficiency Award.

In 2014, the company was certified according to DIN EN ISO 50001 (an internationally valid standard that defines the requirements for the application of an energy management system). In 2018, the subsidiary APEVA SE was also successfully certified by TÜV and AIXTRON SE was re-certified. The energy management system will continue to be systematically and expanded.

At AIXTRON, we are continuing to make consistent efforts to reduce CO<sub>2</sub> emissions at our manufacturing and research and development sites in Germany and the UK. Some of the energy projects described are of a longer-term nature and will not take full effect until the second or third year, as the necessary measures will have to be adapted to current conditions.

One example here is the conversion of lighting to LED in production. As early as 2017, we began to convert all remaining conventional light sources at our two research and development sites to LED lighting. This project was continued through to 2018 and has already been successfully completed for the main site in Herzogenrath. After a two-year term, implementation of this project was also successfully completed in 2019 at our Cambridge site and our second site in Herzogenrath.

The projects referred to above have been based on the systematic energy management introduced in 2013. A calculation of proprietary energy consumption, broken down by energy type, forms the basis for sustainably reducing consumption and making more efficient use of energy.

For this reason, we decided to extend and expand the consumption recording system. The underlying idea here is that energy consumption can only be controlled and reduced in a targeted manner if consumption meters actually record energy consumption at the neuralgic points. Only this way can targeted measures aimed at reducing CO<sub>2</sub> emissions be introduced and the success of these measures directly evaluated.

## Projects to reduce CO<sub>2</sub> emissions and safeguard biodiversity

Building on this systematic approach to energy management, AIXTRON has already initiated numerous projects and measures to sustainably reduce its energy consumption. The most important projects which we initiated and implemented between 2015 and 2017 are presented in our [2018 Sustainability Report](#).

In the past two years (2018 and 2019), we have initiated and implemented further energy efficiency projects, as well as one project aimed at safeguarding biodiversity:

- ▶ Complete conversion to LED lighting (including outdoor lighting) at Herzogenrath site.
- ▶ At AIXTRON Ltd. in the UK, lighting in the production department was also gradually converted to LED, with this project also being completed in 2019.
- ▶ Optimization of circulation water cooling.
- ▶ Introduction of an energy monitoring system to visualize consumption for all employees and facilitate rapid intervention in the event of atypical energy consumption.
- ▶ Optimization of the extraction system in our canteen kitchen.
- ▶ Energy evaluation of the ventilation systems used in the clean room.
- ▶ Installation of heating meters in production department and laboratory.
- ▶ Conversion to electronic invoicing and processing system.
- ▶ Conversion from conventional electricity (grey electricity) to electricity from renewable energy sources (green electricity).

- ▶ Offsetting of our unavoidable CO<sub>2</sub> emissions with certified climate protection projects.
- ▶ An area of around 12,500 m<sup>2</sup> at the company site has been converted from normal monotonous grass surfaces into a bee and insect-friendly meadow.
- ▶ Converting lighting for our APEVA SE subsidiary in the direct vicinity of our main site.
- ▶ Successful auditing of our energy management system at AIXTRON SE and APEVA SE.
- ▶ Construction of 12 e-car charging points to promote e-mobility and of 24 e-bike charging points to charge bicycle batteries
- ▶ Replacement of existing generators with inverters to reduce energy losses
- ▶ Replacement of existing laboratory cleaning equipment with a more energy-efficient solution (scrubbers).

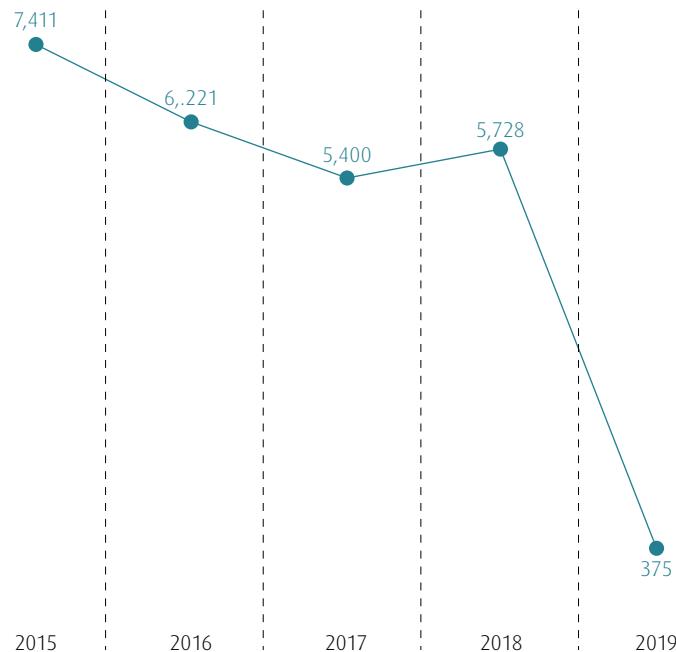
Together, the measures implemented since 2015 have enabled us to achieve significant energy savings and cut our costs. The company has sustainably shrunk its environmental footprint, as the measures outlined above have reduced its CO<sub>2</sub> emissions by more than 1,940 tonnes a year.

Wherever possible, AIXTRON will continue to initiate and implement projects to further reduce its energy consumption in future as well. The results confirms the approach we have taken, as is clearly apparent from the table and chart below.

## Key figures for energy use (Herzogenrath site)

	2015	CO <sub>2</sub> in tonnes	2016	CO <sub>2</sub> in tonnes	2017	CO <sub>2</sub> in tonnes	2018	CO <sub>2</sub> in tonnes	2019	CO <sub>2</sub> in tonnes
<b>Electricity (kWh)</b>	11,143,100	5,872,4	9,112,560	4,802,3	9,595,253	5,056,7	10,033,811	5,288	10,658,090	0
<b>Natural gas (kWh)</b>	6,580,224	1,447,7	6,072,163	1,335,9	568,181	125	685,610	151	608,462	122.88
<b>District heating (kWh)</b>	756,610	90,8	688,120	82,6	1,821,360	218,6	2,406,370	289	1,957,130	234.86
<b>Total (kWh)/ CO<sub>2</sub> in tonnes</b>	<b>18,479,610</b>	<b>7,411</b>	<b>15,207,294</b>	<b>6,221</b>	<b>11,984,794</b>	<b>5,400</b>	<b>13,125,791</b>	<b>5,728</b>	<b>13,223,682</b>	<b>375.34</b>
<b>Sulphur hexafluoride (SF<sub>6</sub>) in kg</b>	Not known		Not known		Not known		Not known		<b>0.772</b>	<b>17.6</b>
<b>Nitrogen (N<sub>2</sub>) in tonnes</b>	2,362	0	1,816	0	2,050	0	2,290	0	2,612	0
<b>Argon (tonnes)</b>	33	0	-	0	375	0	23	0	24	0
<b>Hydrogen (H<sub>2</sub>) in m<sup>3</sup></b>	12,303	0	9,508	0	11,250	0	135	0	13	0
<b>Water total (m<sup>3</sup>)</b>	16,861	0	16,777	0	18,961	0	11,833	0	13,288	0
<b>Fresh water</b>	16,861	0	16,777	0	18,961	0	11,833	0	13,288	0
<b>Wastewater</b>	16,861	0	16,777	0	18,961	0	11,833	0	13,288	0
<b>Waste water at cooling towers</b>	12,164	0	10,433	0	2,656	0	1,035	0	1,112	0

Consumption of energy and other significant resources at AIXTRON in Herzogenrath. Of perfluorinated and polyfluorinated chemicals, sulphur hexafluoride was included in the calculation for the first time in 2019.

CO<sub>2</sub> emissions at Herzogenrath site

## Key figures for energy use (UK, Asia, USA)

	2017						
	UK	USA	China	Japan	South Korea	Taiwan	Total
Electricity (kWh)	786,513	4,605,023	---	---	---	---	5,391,536
CO <sub>2</sub> in tonnes <sup>a)</sup>	415	2,427	---	---	---	---	2,842
	2018						
	UK	USA	China	Japan	South Korea	Taiwan	Total
Electricity (kWh)	887,727	42,414	26,937	50,942	70,267	73,800	1,152,087
CO <sub>2</sub> in tonnes <sup>a)</sup>	468	22.4	14	27	37	39	607.4
	2019						
	UK	USA	China	Japan	South Korea	Taiwan	Total
Electricity (kWh)	856,253	41,413	27,201	42,160	173,783	75,472	1,216,282
CO <sub>2</sub> in tonnes <sup>a)</sup>	0	0	16.94	22.02	93.37	39.41	171.74

Energy consumption at the AIXTRON Group (excluding Germany). The data for our Asian sites was collected for the first time in 2018. The significant reduction in energy consumption in the USA in 2018 was due to the sale of the ALD business and the move to new premises. The reduction of CO<sub>2</sub> emissions in the UK and the USA from 2019 onwards was achieved by converting to green electricity. The substantial increase in South Korea was due to the site extension in the year under report as a result of our newly founded subsidiary APEVA Korea.

## Paper consumption, air travel, rental cars, rail travel, and company vehicles

### a) Paper consumption

In 2016, we began converting to paperless invoicing. Following the successful completion of this project two years later, we made parallel efforts to reduce paper consumption at the company and to raise employees' awareness that only those documents that are absolutely necessary should be printed. The paper consumption statistics were recorded for all sites for the first time in the 2019 year under report.

Paper consumption	2018	2019
Number of sheets	1,690,229	1,260,741
CO <sub>2</sub> emissions [tonnes]	8.9	6.5

### b) Air travel

CO<sub>2</sub> emissions resulting from air travel have been recorded and evaluated for Germany since 2015 and were communicated for the first time in the 2017 Sustainability Report. CO<sub>2</sub> data for employees' flights in Asian countries, the UK, and the USA were recorded at the AIXTRON Group for the first time in 2018. It should be noted that higher demand for our products is usually accompanied by increased travel activity by our employees, as most of our customers are located outside Germany and some developments are also performed jointly with the customer.

Air travel	2017 <sup>*)</sup>	2018 <sup>*)</sup>	2018 <sup>**)</sup>	2019 <sup>**)</sup>
Number of flight tickets	1,344	1,518	3,208	3,650
Total air kilometers (based on GPS data)	10,419,302	11,648,809	17,077,361	14,518,438
CO <sub>2</sub> emissions [tonnes]	2,451	2,769	4,235	3,566
CO <sub>2</sub> emissions [kg/km]	0.24	0.24	0.24	0.25

The flight data collected for 2017 refers only to the Germany site.

<sup>\*)</sup> Only Germany

<sup>\*\*) AIXTRON Group</sup>

### c) Company vehicles

All company vehicles at the AIXTRON Group could be reported for the first time in the 2018 year under report. This measure, which was previously not possible, enabled the CO<sub>2</sub> emissions attributable to company vehicles to be calculated. Direct comparison with the figures for the previous years is therefore not possible.

Company vehicles	2017 <sup>*)</sup>	2018 <sup>*)</sup>	2018 <sup>**)</sup>	2019 <sup>**)</sup>
<b>Number of vehicles</b>	4 [2]	4	12	13
<b>Total kilometers driven</b>	38,700 [9,000]	102,656	248,840	192,386
<b>CO<sub>2</sub> emissions [tonnes]</b>	6.4 [1.1]	17.6	43.18	30.3
<b>CO<sub>2</sub> emissions [kg/km]</b>	0.17 [0.12]	0.17	0.17	0.16

From October 1, 2017, two diesel vehicles at the Herzogenrath site were replaced by hybrid vehicles, reducing CO<sub>2</sub> emissions from 0.17 kg/km to 0.12 kg/km. The disclosures in front of the brackets relate to the four conventional vehicles, while the disclosures in the brackets relate to the new vehicles.

<sup>\*)</sup> Only Germany

<sup>\*\*) AIXTRON Group</sup>

### d) Rental cars and rail travel

The CO<sub>2</sub> emissions attributable to rental cars and rail travel could be recorded for Germany for the first time in 2018 and for the other sites for the first time in the 2019 financial year. This significantly increased the volume of CO<sub>2</sub> emissions reported for 2019.

Rental car / rail travel	2018 <sup>*)</sup>	2019
<b>Number of bookings</b>	440	1,096
<b>Total kilometers traveled</b>	349,860	677,317
<b>Emissions* CO<sub>2</sub> [tonnes]</b>	38.6	65.47

<sup>\*)</sup> Only includes bookings for Germany.

## Scope 1–3 emissions

### Scope 1 emissions

The Scope 1 emissions calculated here relate to the natural gas used to heat buildings at the Herzogenrath site, as well as to all company vehicles used worldwide. AIXTRON uses only a very small volume of the climate-relevant gases often used in the semiconductor industry, namely “perfluorinated compounds” (PFCs). In the year under report, we used 0.772 kg of sulphur hexafluoride (SF6) to conduct tracer gas tests when testing the construction and functionality of extraction systems in our equipment. The low volume of SF6 used was unavoidable, as no alternative gases are appropriate for the process.

### Scope 2 emissions

These emissions predominantly relate to electricity purchased at all company locations and to a lesser extent to the district heating used at the company headquarters in Herzogenrath.

► No CO<sub>2</sub> emissions were incurred in Europe and the USA in 2019, as we no longer procure conventional electricity, but rather electricity from regenerative energy sources.

### Scope 3 emissions

These include all business travel at the Group, i.e. air travel, as well as any journeys by rental car or train. At present, it is not possible to calculate further Scope 3 emissions, such as those due to journeys undertaken by our employees or to waste volumes.

	Emission sources	CO <sub>2</sub> emissions [in tonnes]	2018		2019	
			Total		CO <sub>2</sub> emissions [in tonnes]	Total
Scope 1	Natural gas	151			122.9	
	Company vehicles	43.18	<b>194.18</b>		30.3	<b>170.8</b>
	Tracer gas tests	---			17.6	
Scope 2	Electricity	5,895.4			171.74	
	District heating	289	<b>6.184,4</b>		234.86	<b>406.6</b>
Scope 3	Air travel	4,235			3,566	
	Rental cars + Rail travel	38.6	<b>4,282.5</b>		65.47	<b>3,637.97</b>
	Paper consumption	8.9			6.5	
			<b>10,661.08</b>		<b>4,215.37<sup>a)</sup></b>	

<sup>a)</sup>) The CO<sub>2</sub> emissions incurred in the 2019 year under report were fully offset.

## Revenue/emissions ratio

CO<sub>2</sub> emissions are determined by business volumes, with higher revenues typically accompanied by higher energy consumption and thus rising CO<sub>2</sub> emissions.

	2017*	2018	2019**
AIXTRON Group revenues (EUR million)	230.382	268.811	259.627
CO <sub>2</sub> emissions [tonnes] (Scope 1 to 3)	10,699 <sup>†</sup>	10,652.58	4,215.37
CO <sub>2</sub> emissions [tonnes] per revenues (EUR 1 million)	<b>46.44</b>	<b>39.66</b>	<b>16.24</b>

<sup>\*</sup>) CO<sub>2</sub> emissions at buildings excluding Asian sites and including flights/company vehicles for Germany.

<sup>\*\*</sup>) Disclosures for the AIXTRON Group, accounting for procurement of electricity from renewable sources.

## Environmental initiatives



### Energy Efficiency Network

We have been a member of the Energy Efficiency Network, an association of eight companies in the Aachen region, since 2016. In this group, which is organized by the Aachen Chamber of Industry and Commerce (IHK), energy experts from individual companies share their experiences, benefit from expert guidance, and work to further improve their companies' energy balance sheets.



### Carbon Disclosure Project (CDP)

As part of our involvement in the Carbon Disclosure Project (CDP), we have been reporting once a year since 2010 on the ecological impact of our business activities and our corporate strategy to reduce CO<sub>2</sub> emissions. This way, AIXTRON is promoting transparency for investors, companies, political decision-makers and the media. We will be making further efforts to improve our assessment in the years ahead.

 Key energy figures and successes at a glance

## Reduction in CO<sub>2</sub> emissions

20 projects implemented since 2015

**16.24 tonnes**

CO<sub>2</sub> emissions per EUR 1 million revenues  
(2018: 39.66 tonnes)

## Energy-saving lighting

Conversion to energy and emission-saving LEDs  
in Germany and UK

## ISO 50001

Certification of AIXTRON SE  
and of subsidiary APEVA SE



AIXTRON is climate neutral – by using green  
electricity and offsetting all of its remaining CO<sub>2</sub>  
emissions

## Industry 4.0

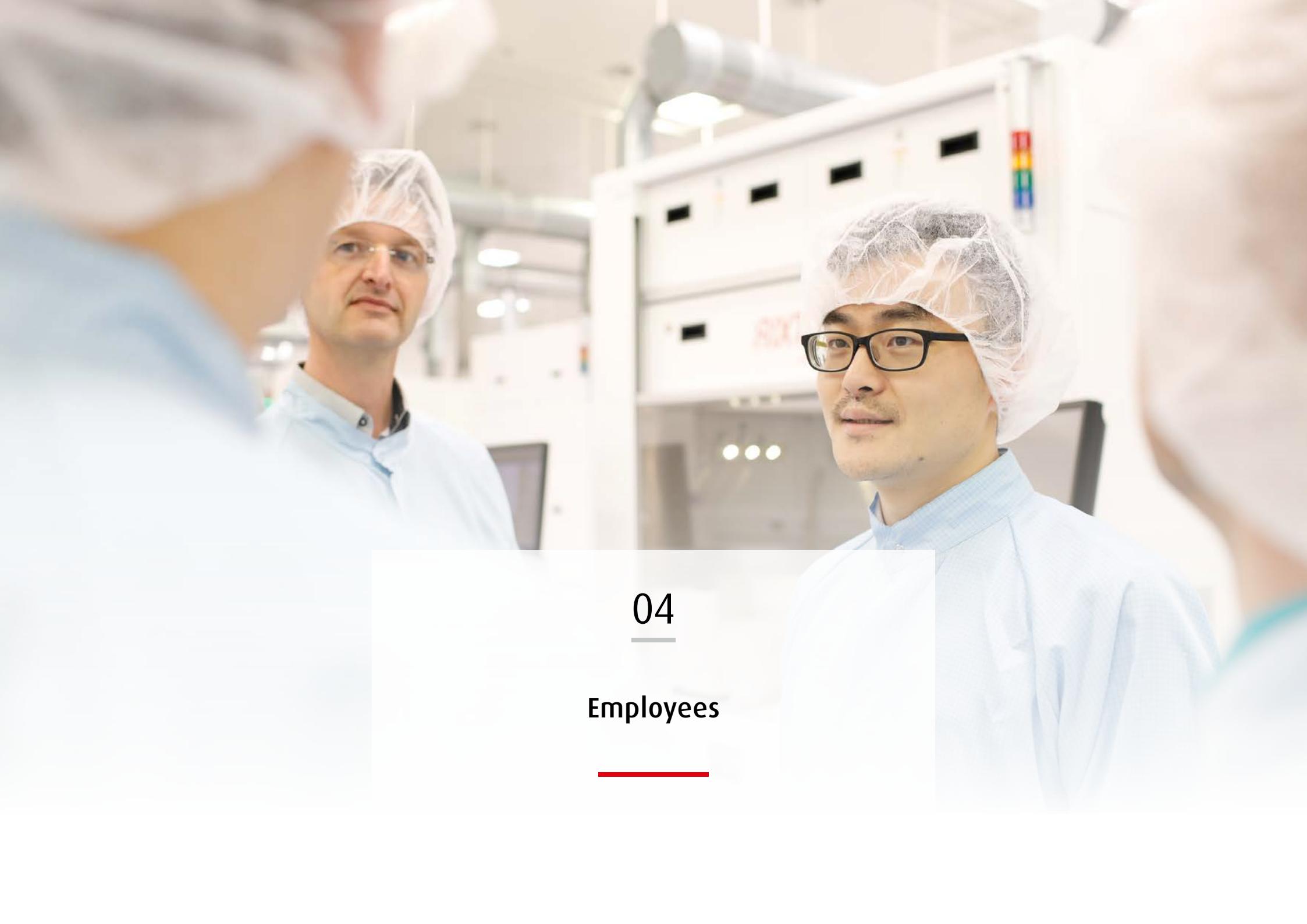
Significant improvement  
in manufacturing processes and wafer quality.

**1,940 tonnes**

More than 1,940 tonnes  
of CO<sub>2</sub> emissions avoided since 2015.

## Carbon Disclosure Project

Since 2010, we have reported on the ecological impact  
of our business activities. In 2019,  
we improved our scoring from D- to D.



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## Employees

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## Employees

Our employees, with their skills and expertise, their great commitment, and their willingness to keep learning new things, are a key factor in our economic success. By accompanying, challenging, and promoting our employees in their specific fields, we safeguard our product and process quality, our innovation potential, and thus also our ability to create long-term value. Well-structured HR activities and working conditions that reflect the responsibility we feel towards our employees – these are essential factors. After all, to achieve peak performance in the long term the company needs satisfied and dedicated employees.

AIXTRON's goal is to provide its employees with the qualifications and competencies they need, while also offering great flexibility and meaningful perspectives.

We therefore provide our employees with a variety of individual training measures and development opportunities relevant to their activities.

The company has implemented several codes of conduct which provide definitions of fair and correct conduct for its employees, also in their dealings with each other. These codes of conduct are binding for all AIXTRON Group employees.

## Employee interests

Today's world of work places many demands on employees and their families. We therefore make every effort to ensure that the company's economic interests are compatible with the private and family needs of our employees.

Flexible working hours are a key element here. Working with individual time accounts, our employees can to a large extent individually design and largely determine their working hours in accordance with the respective requirements.

	Employees taking parental leave		Employees returning to work after parental leave	
	2018	2019	2018	2019
Europe	16	20	100 %	100 %
Asia / USA	8	2	100 %	100 %

At our sites around the world, we support parents by allowing them to take parental leave after the birth of their children. A total of 703 employees were entitled to parental leave (2018: 647). Two employees most recently drew on this option in Asia and the USA, while a total of twenty employees were on parental leave in Germany and the UK. All parents returned to their positions at the end of their leave.

## Employee health and safety

Health and safety have always been firmly anchored in AIXTRON's business processes. AIXTRON holds quarterly Health and Safety Committee (ASA) meetings in Germany, at which a representative of AIXTRON's management, two members of the Works Council, the company physician, the safety specialists and the safety officers exchange information. The ASA meetings are also attended by a representative of the severely disabled, as well as one representative from each of the Facility Management, Human Resources, and Compliance Departments.

We instruct all our employees on topics relating to occupational health and safety protection on a regular basis, and at least once a year, and also include factors of current relevance. In the ASA Group, three employees have been appointed as internal safety specialists. Together with the company physician, they are responsible for advising managers, the Works Council and employees, as well as for training the safety officers.

Accident avoidance is a further important aspect of health protection, and one to which AIXTRON attaches great importance in its organization. The effectiveness of these activities is confirmed by the very low number of accidents at the company, none of which severe or fatal. A total of 147 employees at our sites in Germany had been trained as first-aiders at the end of the year (2018: 145).

We promote our employees' health with regular and ongoing occupational medical examinations and checks. In addition, we offer annual flu vaccinations to all our employees on a voluntary basis and free of charge.

For AIXTRON, maintaining a company integration management system to enable employees to return to work after extended periods of sickness or reintegrate them

after accidents is not just a legal obligation. It is also a self-evident part of the company's efforts to uphold the working capacity and employability of its staff.

	2017 <sup>*)</sup>		2018 <sup>**)</sup>		2019	
	Men	Women	Men	Women	Men	Women
<b>Working days lost (work-related sickness and accidents)</b>	30	7	47	12	230	0
<b>Number of injuries</b>	48	8	97	8	20	9

Working days lost due to work-related sickness and accidents (excluding accidents on the way to work) and number of work-related injuries. <sup>\*)</sup> Only Germany and UK; <sup>\*\*) AIXTRON Group</sup>

In 2019, the AIXTRON Group recorded a total of 5 work-related accidents (2018: 9). In 2019, there was also one accident on the way to work (2018: 0) and, **as in the previous year, no work-related fatality** (2018: 0). Despite the lower number of work-related accidents, these led to a significant increase in the number of working days lost. In 2018, 9 work-related accidents resulted in 59 days of work being lost, while in 2019 5 work-related accidents led to 230 calendar days of work being lost. The accident frequency does not necessarily correlate with the volume of working days lost.



2018 total: 0

1 2019 total: 1

## Work-related accidents

## Accidents on the way to work

■ Men | ■ Women

## Employee selection and culture

AIXTRON operates in a rapidly changing business climate and has to compete to attract highly qualified specialists and executives in areas such as natural sciences, engineering, and business administration.

Our attractiveness as an employer is a key factor in the company's long-term success. One core element of our external presence as an employer is our careers website, where we provide interested parties with extensive information and motivate them to apply.

Due the high number of employees newly hired last year, we further stepped up our efforts to target graduates, trainees, and interns at career and training fairs. This represents another major part of our efforts to present AIXTRON as an attractive employer. We attach great importance to equal opportunities for all applications, as we have long recruited both from within the region and worldwide.

Based on a requirements profile, AIXTRON selects its employees in accordance with their specialist and personal qualifications and their previous experience. As a general rule, we offer permanent employment contracts to new colleagues.

A structured on-boarding process, which was renewed in 2019, is in place to facilitate the rapid integration of new employees at the company.

## Share of management staff hired

Further information about how we select our staff can be found in the "Employees" section of the "Business Model" chapter of our Group Management Report.

	2018		2019	
	Non-local	Local	Non-local	Local
Germany	50 %	50 %	100 %	0 %
UK	0 %	100 %	0 %	0 %
Asia/USA	41 %	59 %	22 %	78 %

Share of management staff hired locally and non-locally at the AIXTRON Group.

We adhere to national legal requirements for the protection of employee rights. In structuring its employment contracts, the company is also bound by national legal regulations, internal company agreements, and prescribed statutory notice periods.

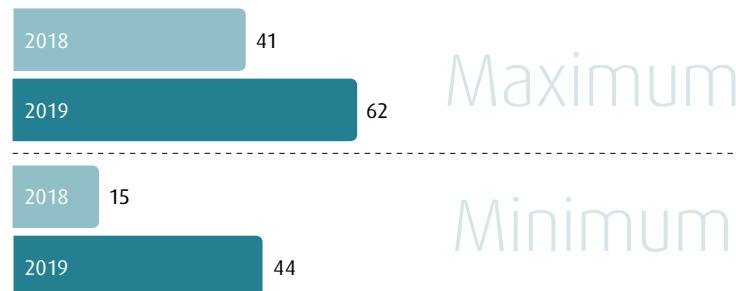
## Temporary employment

We have to be able to react flexibly to fluctuations in demand for AIXTRON's products, which can be significant at times. We therefore work together with established engineering service providers and temporary employment agencies. One key prerequisite here is the "equal pay" principle, i.e. temporary employees receive the same amount of pay for the period of temporary employment as an equivalent employee at the company.

As well as receiving equal pay, temporary employees also benefit from the principle of equal treatment with permanent employees in aspects such as using the canteen (for which AIXTRON grants a subsidy) or participating in company events (employee and Works Council meetings, Christmas and summer parties).

In 2019, AIXTRON had an average total of 44 temporary employees in Germany (2018: 23), 7 in the UK (2018: 2), and 3 in China (2018: 1). If, in individual cases, the period of temporary employment is required to last for more than 6 months, then in Germany the "temporary assignment status" is reviewed.

A legislative amendment introduced in Germany in 2018 reduced the maximum period of temporary employment to 18 months. In Germany, the deployment of temporary employees is governed by a corresponding company agreement.



Maximum and minimum number of temporary employees in year under report and previous year

## Diversity

A modern and open society gives rise to a wide variety of lifestyles and expectations. As an international company, AIXTRON prizes equality of opportunity and diversity. For this reason, a workforce made up of different cultures, an appropriate gender balance, and a balanced age structure are an active part of our corporate culture. In 2019, AIXTRON employed 703 people (2018: 647) from 52 nations worldwide (2018: 42). Overall, our male employees came from a total of 43 nations, while our female employees came from 17 nations (2018: men: 36, women: 14 nations).

We see this diversity as providing added value to the company, whether in terms of its innovative strength or of boosting its competitiveness, for example by understanding customers' needs more closely or devising potential solutions based on a variety of perspectives. All our employees are granted the same appreciation, respect, and opportunities. AIXTRON is explicitly committed to equality of opportunity and promotes this cooperation in mixed teams. To underline this commitment and promote this development, we joined the "Diversity Charter" initiative in 2018. This reflects our commitment to creating a work environment in which all employees enjoy the same development opportunities, irrespective of their gender, nationality, religion or worldview, disability, age, or sexual orientation.

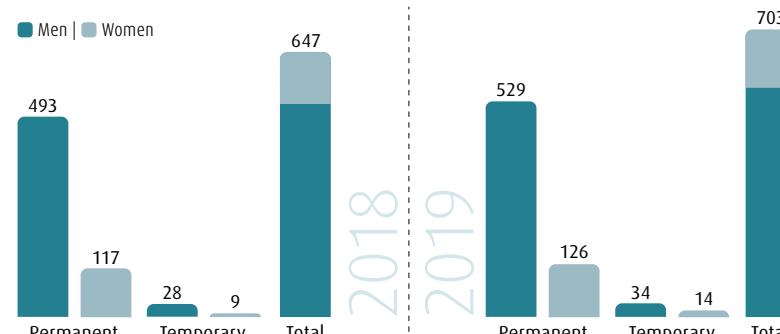
Given our company's strong focus on technology, and despite various efforts, the share of male employees is comparatively high. As of December 31, 2019, men made up 80 % of our workforce, while women accounted for 20 %.

## Employment figures

Information about employees and other staff

	Employees	2018		2019	
		Permanent	Temporary	Permanent	Temporary
<b>Germany</b>	Men	330	12	353	18
	Women	75	7	81	12
<b>UK</b>	Men	68	0	76	0
	Women	10	1	11	0
<b>Asia/ USA</b>	Men	95	16	100	16
	Women	32	2	34	2
<b>Total</b>	<b>Men</b>	<b>493</b>	<b>28</b>	<b>529</b>	<b>34</b>
	<b>Women</b>	<b>117</b>	<b>9</b>	<b>126</b>	<b>14</b>
	<b>Total (headcount)</b>	<b>647</b>		<b>703</b>	
	<b>Total (FTEs)</b>	628		688	

Breakdown by gender and region of permanent and temporary employees at the AIXTRON Group.



Overview of men and women in temporary and permanent employment at the AIXTRON Group.

## Employment figures

Overview of full-time and part-time employees at the AIXTRON Group

	2018		2019		
	Employees	Full-time	Part-time	Full-time	Part-time
<b>Germany</b>	Men	329	13	348	23
	Women	63	19	59	34
<b>UK</b>	Men	65	3	73	3
	Women	5	5	6	5
<b>Asia/ USA</b>	Men	110	0	115	1
	Women	34	1	36	0
<b>Total</b>	<b>Men</b>	<b>504</b>	<b>16</b>	<b>536</b>	<b>27</b>
	<b>Women</b>	<b>102</b>	<b>25</b>	<b>101</b>	<b>39</b>
<b>Total (headcount)</b>		<b>647</b>		<b>703</b>	
<b>Total (FTEs)</b>		628		688	

Employee totals, broken down by type of employment relationship.



Overview of full-time and part-time employees at the AIXTRON Group.

■ Men | ■ Women

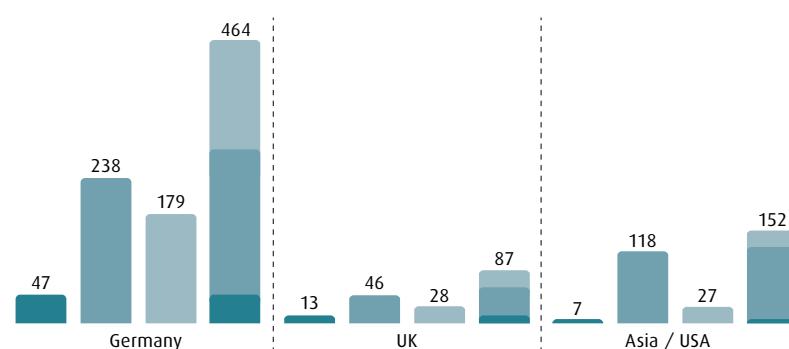
## Employment figures

Newly hired employees and personnel turnover

2018	< 30 years	share in %	≥ 30 < 50 years	share in %	≥ 50 years	share in %	Women Total	Men Total
Herzogenrath (GER)	17	36 %	29	62 %	1	2 %	14	33
Cambridge (UK)	4	50 %	4	50 %	0	0 %	1	7
Asia / USA	5	14 %	27	77 %	3	9 %	1	34
2019	< 30 years	share in %	≥ 30 < 50 years	share in %	≥ 50 years	share in %	Women Total	Men Total
Herzogenrath (GER)	20	32 %	34	55 %	8	13 %	17	45
Cambridge (UK)	7	37 %	10	53 %	2	10 %	1	18
Asia / USA	3	5 %	39	71 %	13	24 %	34	47

A total of 162 employees were newly hired at the AIXTRON Group in 2019 (2018: 90).

Breakdown of new hires by age and region



Regional distribution by age group of 703 AIXTRON employees in the 2019 year under report (for the Germany, UK, and Asia/USA regions)

■ < 30 years | ■ ≥ 30 < 50 years | ■ ≥ 50 years

## Personnel departures and turnover

	< 30 years		≥ 30 < 50 years		≥ 50 years		Turnover rate	
	2018	2019	2018	2019	2018	2019	2018	2019
Germany	4	4	17	11	8	4	6.8 %	4.1 %
UK	2	3	1	4	2	2	6.4 %	10.3 %
Asia/USA	0	1	15	13	8	1	15.9 %	9.9 %

Breakdown of employees leaving the company by age group and personnel turnover rate as a proportion of employee totals for each region. The overall personnel turnover rate for the AIXTRON Group amounted to 6.1 % in the 2019 year under report (2018: 8.8 %).

## Employee development

A continuous learning process is an essential prerequisite for our success. Competent employees ensure that AIXTRON remains innovative and competitive. By offering individual training and development programs, we motivate our employees and promote them in line with their potential and interests. As part of a company-wide personnel development concept, AIXTRON will continue to provide its employees with ongoing training and expand this in line with their needs.

We support the development of specialists and executives in the company. One foundation for this process is the annual staff appraisal, at which the employee's training needs for their current and future roles are identified. In 2019, AIXTRON invested an average of EUR 560 (2018: EUR 428) per employee in personnel development and training.

## Overview of training measures (AIXTRON Group)

Year	Total hours	Number of employees	Average hours per employee	Number of hours for men	Average hours for men	Number of hours for women	Average hours for women
2018	9,954	647	16	8,387	17	1,567	14
2019	14,873	703	21	12,739	23	2,134	15

## Ω Career model

Alongside traditional management roles, it is important to provide employees with the opportunity of structured and systematic career development. To this end, a company-specific career model was developed for AIXTRON in 2016. Based on the company's requirements, three career paths were defined: the expert, project, and management paths.

Each path comprises several career stages. This model aims to reveal various options for developing employees and thus enhance employee motivation. Furthermore, it is intended to ensure that the right employees are available to the company in the right positions. For further development, we offer various focuses for the expert, project manager, and manager careers with personnel responsibility. Currently, 63 % of our employees are in one of the three career paths (2018: 61 %).

## Ω Leadership and team development

Modern career management requires a continuous balance between the company's needs, the employee actively shaping his or her own development, and regular feedback from the manager to the employee with regard to his or her performance and strengths. We promote the development of executives and employees with external, individual coaching programs, including techniques for management development, as well as with internal coaching programs.

## Ω Employee appraisal meetings

One management instrument which we have used for many years is the regular employee appraisal meeting. Our aim here is to hold an official meeting based on uniform standards with each employee each year. At this meeting, managers and employees can give each other feedback and discuss measures to enhance their cooperation, if appropriate, and underline the employee's strengths. A further major component of the employee appraisal meeting is the agreement of development goals.

## Training young people

We offer young women and men a variety of opportunities in terms of vocational training and dual study programs – from IT specialist, to industrial clerk and the Bachelor of Science, or technical product designer to mathematical-technical software developer. AIXTRON trainees are repeatedly singled out by the Aachen Chamber of Industry and Commerce in recognition of their outstanding performance.

In the 2019 financial year, we employed a total of 20 trainees and dual study program students in Germany and the UK (2018: 14). In the course of developing our training program, since 2018 we have also offered a further technical course training young people to become mechatronics engineers.

## Total number of trainees

	2017	2018	2019	
Herzogenrath (Germany)	System integration IT specialist	1	4	6
	Math-technical software developer (MATSE)	3	2	3
	Technical product designer	1	---	---
	Industrial clerk	2	2	3
	Bachelor of Science (business administration+)	2	1	2
	Mechatronics engineer	---	1	2
Cambridge (UK)	Design engineer	---	1	1
	IT specialist	---	---	1
	Production trainee (technicians)	---	3	2
<b>Total</b>		<b>9</b>	<b>14</b>	<b>20</b>

Number of trainees by training vocation.

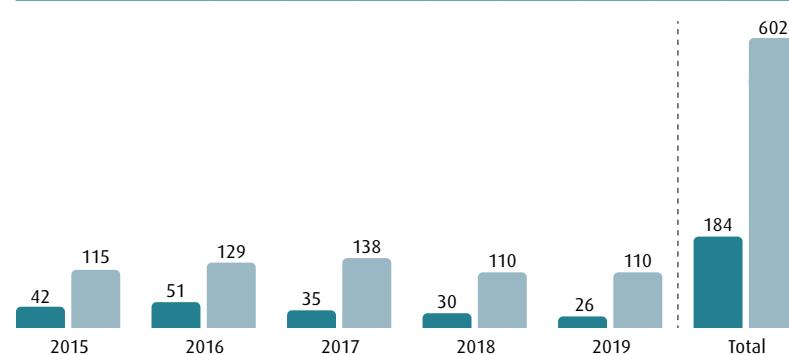
It is important to us to offer young people a perspective upon the successful completion of their training. Consistent with this, in recent years AIXTRON has offered positions to all of the trainees and dual study program students wishing to remain at the company.

## Innovation management

As part of its innovation management process, AIXTRON has had a global suggestion scheme in place for years now. This is based on uniform principles worldwide

and encourages and enables all employees to submit their ideas on how to improve processes, save costs, enhance products, etc. If the suggestions are accepted, then the company pays a reward to the employee. Since being introduced, large numbers of proposed improvements have been submitted and accepted, as is clear from the table and chart below:

Type of improvement suggestion submitted	2016		2017		2018		2019	
	submitted	accepted	submitted	accepted	submitted	accepted	submitted	accepted
Business process	35	7	38	9	25	4	15	10
Product	42	25	38	13	44	14	35	7
Application	8	5	10	2	6	3	4	2
Transformation	5	2	3	1	0	0	2	1
Other	39	12	49	10	35	9	54	6
<b>Total</b>	<b>129</b>	<b>51</b>	<b>138</b>	<b>35</b>	<b>110</b>	<b>30</b>	<b>110</b>	<b>26</b>



The improvement suggestions submitted and accepted at the AIXTRON Group for 2015 to 2018 (2018: excluding APEVA)  
■ Suggestions accepted | ■ Suggestions submitted

## 602 improvement suggestions

submitted, of which 184 accepted

**Work safety**  
8 work-related accidents at the AIXTRON Group.  
No work-related fatalities

**The accident total**  
fell more than 50 % in 2019

## 20 trainees in 8 training occupations

2019 (Germany + UK)

**Employee diversity**  
AIXTRON's worldwide team includes  
employees from 52 nations

## 42 trainees trained in 6 vocations

In past 5 years

## Training

Average number of hours per employee: 21

**Years of support**  
for a local  
child daycare center



05

Social

As a company, AIXTRON assumes social responsibility and has for years now been promoting the common good by supporting individual projects. We will uphold this commitment and are currently developing a Group-wide concept.

## Ω Financial support from public funds

AIXTRON's proximity to research and science is an important aspect of its business strategy of translating research solutions into marketable products. As a leading provider of deposition equipment for the photonics and semiconductor industries, AIXTRON is a partner to or participant in important national and international subsidized projects.

R&D grants received	2016	2017	2018	2019
Total amount (EUR)	2,126,000	3,165,000	4,728,000	7,866,000

Übersicht der erhaltenen Forschungsgelder für Forschung und Entwicklung

Within a public-private partnership for electronics components and systems organized by the EU (ECSEL), AIXTRON is taking part, for example in the "**Ultimate-GaN**" research project. In this project, 8 German and 19 other European partners are working together in a consortium covering the entire value chain to develop power and high-frequency semiconductors based on next-generation gallium nitride technologies. Other research projects include the "**HEA2D**" project to develop 2D nanomaterials and the current NextLED project aimed at developing highly efficient LEDs.

## Support for charitable organizations

Since 2012, we have made an annual donation to a local child daycare center. This is intended to support AIXTRON employees and parents at the Herzogenrath site in their efforts to find a daycare center close to their workplace.

## Ω Social commitment

Promoting young people in the fields of science, education, and career development is important to us in our capacity as a socially responsible company. It forms a key component of our social commitment. In 2017, we agreed a long-term school cooperation program. We also support young people once they have left school, as well as students, by offering presentations, company visits, and internships.

One example is the "Day on Site" ("Tag-vor-Ort"), which we have offered for many years now in our role as a corporate member of the Industry and Business Workgroup (AIW) of the German Physics Society (DPG). Last year as well, a total of 13 students and members of the DPG came to visit us.

Furthermore, more than 30 students from all round the world had the opportunity to find out about our company as part of an excursion organized by ICPS 2019, the International Conference of Physics Students. All of the students received exciting insights into the application of our company's MOCVD technology and also found out more about the different areas of work performed by other physicists. The excursion was organized by the Young German Physics Society (jDPG), a working group within the German Physics Society (DPG).

### Company run in Aachen and Cambridge

We have taken part in Aachen's annual corporate running event (Aachener Firmenlauf) since 2011 and are once again participating in the "Chariots of Fire" relay race in Cambridge. This way, the company motivates its employees to exercise and help avoid health problems. Since the launch of the event, the company has covered the costs of the entry fees for those employees taking part. These funds then benefit several charitable organizations in the region. In 2019, the participants in Aachen raised a total of EUR 35,000. The organizers then forward the donations to various charitable organizations.

Further information can be found here for Aachen: [www.aachener-firmenlauf.de](http://www.aachener-firmenlauf.de) and here for Cambridge [www.chariots-of-fire.co.uk](http://www.chariots-of-fire.co.uk)



## Blood donation

In a program carried out in cooperation with the Institute for Transfusion Medicine at RWTH Aachen University Hospital, AIXTRON employees at the Herzogenrath site donate blood each year and thus support the medical care system, e.g. by facilitating the production of blood preserves. In addition to blood donation, most of the allowances paid to blood donors also benefit charitable organizations. The amount donated by AIXTRON employees is then doubled by the company. The in-house blood donation has taken place since 2015 and is repeated each year.

## Practical example – cooperation with Einhard High School in Aachen

As part of the KURS initiative (Cooperation Network of Regional Companies and Schools), a long-term learning partnership has been in place between AIXTRON and Einhard High School (Einhard-Gymnasium) in Aachen since 2017. The KURS initiative aims to create mutually beneficial “learning partnerships” between companies and schools based on firm agreements. It helps schools to provide their pupils with real insights into the business world by reference to the specific partner company. Not only that, the KURS program is intended to boost the local economy. Companies have the opportunity to present themselves as employers and as “good neighbors”.

In so-called “Job Discovery Days” and the “Girls’ and Boys’ Day”, the school pupils gained initial insights into our company and the world of work. During an on-site tour of the company, the pupils also spoke to our trainees and found out more about their experiences with their training and chosen lines of work. This way, we hope to make young people aware of the attractiveness of training and of the associated career opportunities at AIXTRON. Not only that, the advantages of dual training and study programs can also be presented as an attractive alternative to university studies. In addition, last year we provided assessment center training for school students at the company and took part in school projects, e.g. by participating in the “Berufsstraße” (job road) in which boys and girls are given an explanation of the training vocations on offer at AIXTRON.

- ▶ Within this long-term cooperation, joint projects are also envisaged for the 2020 reporting year



06

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Respecting  
Human Rights

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All human beings are endowed with equal, inalienable rights. AIXTRON attaches very great value to respecting these human rights. That applies both to the company's own employees and to employees at its suppliers and service providers. AIXTRON aims to avoid any violation whatsoever of human rights both at the company itself and along the entire value chain. To help avoid any such violations, the company requires its suppliers to comply with environmental and social standards and to ensure the greatest possible transparency. AIXTRON expects its business partners to respect human rights as a basis for long-term cooperation. Purchasing is performed centrally by the AIXTRON Group; smaller volumes are purchased locally by the local subsidiaries.

## Ω Procurement and supplier management

Due to the high proportion of value added in the supply chain, the purchasing process is of great importance for AIXTRON's long-term success. AIXTRON does not manufacture mechanical and electrical systems and components itself, but focuses on development, configuration and final assembly as well as testing and qualifying the end products. This form of system engineering is based on a very complex, constantly evolving supply chain comprising more than 1,300 suppliers.

AIXTRON works very closely with its extensive network of suppliers to mitigate any negative impact of its business activities. As a significant portion of the value added is sourced from upstream suppliers, the AIXTRON Group uses a risk-oriented approach to attempt to ensure that suppliers are systematically monitored for sustainability aspects and human rights violations.

Environmental and social aspects also play an important role in the selection of and cooperation with suppliers. In complex and widely ramified supply chains, environmental pollution, human rights violations, child or forced labor represent potential risks that we actively counter. The same is true of corruption and bribery. To meet our own requirements and the expectations of customers, employees and society, we actively work to ensure compliance with environmental and social standards and to avoid corruption and bribery in connection with suppliers.

The compliance of all suppliers with environmental and social standards is verified by self-disclosure in the form of a mandatory supplier data sheet and questionnaire. In these documents, suppliers are required to declare whether an established process is in place at their companies to ensure compliance with internationally recognized human rights and conventions (e.g. ILO basic principles and core labor standards). All information provided by the suppliers must be documented by the provision of suitable evidence. All relevant documents are made available to our existing and potential suppliers via our company website.

## Ω Code of Conduct for Suppliers

AIXTRON places the same expectations and conditions in its suppliers as it does in itself. For suppliers, these are defined in a binding Code of Conduct, which sets out ethical and legal standards in connection with the sale and use of conflict minerals, i.e. commodities, mineral resources, and other natural resources that are mined or extracted in conflict areas and for which systematic violations of human rights and international law are simply accepted. AIXTRON naturally cannot condone any such systematic violations of human rights and only purchases components and materials from companies that respect human rights.

## Conflict minerals

We are committed to doing business fairly and with decency and respect in all the countries in which we operate. AIXTRON therefore supports the objectives of the US Dodd-Frank Act, as well as the EU regulations on conflict minerals to disclose the origin of risk minerals used in our products. We have therefore implemented a management system based on the OECD Guideline for Responsible Supply Chains of Minerals from Conflict and Risk Regions.

All direct suppliers who may supply minerals with potential conflict minerals are contacted and asked to identify and report to us the countries of origin of the minerals.

If there are indications of the use of a raw material supplier in connection with human rights violations and environmental pollution, we react consistently and

take action to ensure that this supplier critically examines the raw material supplier in question and removes it from the joint supply chain. We have established a complaints mechanism to allow internal and external individuals and stakeholders to anonymously raise concerns and complaints about conflict minerals.

AIXTRON only has a limited ability to work towards a completely conflict-free global smelt landscape in its supply chain. To maximize the influence and impact of our conflict-free procurement policy, we decided at an early stage to join the Responsible Minerals Initiative (RMI).

The RMI is one of the most widely used and recognized resources for companies dealing with issues relating to responsible mineral sourcing and has more than 360 members from various industries. We are actively involved in this organization and, among other aspects, support smelters in sustainably meeting their documentary evidence requirements with regard to the conflict-free purchase of minerals.

## Key figures for AIXTRON's supplier relationships

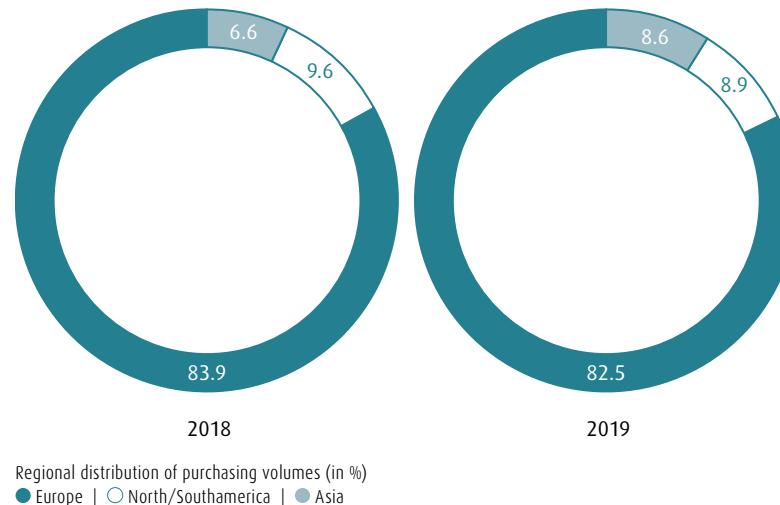
Today's supply chains are global and highly diversified. AIXTRON also has a very heterogeneous and, in some cases, highly specialized, global supply chain, but maintains a strong local focus. The key factors determining the company's cooperation with suppliers are quality, manufacturing competence, supply reliability, and price. The company attaches great importance to working in partnership with its suppliers. This approach is exemplified by development partnerships in which the company jointly develops components and modules with its suppliers.

	2017	2018	2019
Number of suppliers (worldwide)	1,384	1,473	1,335
Purchasing volumes	EUR 146.6m	EUR 235.6m	EUR 226.3m

Number of suppliers and purchasing volumes at the AIXTRON Group

The cooperation extends to suppliers, e.g. from the mechanical and plant engineering sector, the electrical engineering sector, as well as to engineering service providers, suppliers of technical gases, and energy suppliers. AIXTRON is an international company but nevertheless has local roots.

Despite global procurement, local value creation plays a very important role due to the high technical requirements placed in suppliers. In Germany, more than 64 % of procurement is local, while in the UK this share is as high as 75 %. The precondition for cooperation is in all cases compliance with the company's



high quality standards and the supplier's ability to ensure the necessary production competence at a comparable price. AIXTRON procures its production and non-production materials predominantly in those regions in which it operates.

- As in the previous year, there were no substantial changes in the company's cooperation with suppliers in the 2019 year under report.



07

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## Combating Corruption and Bribery

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## Ω Combating corruption and bribery

AIXTRON's compliance codes and policies define the Group-wide standards of conduct expected of our employees and business partners. Compliance with legal requirements, regulatory standards and internal company requirements plays a very important role. The company does not tolerate and consistently investigates any violations of these requirements.

These principles of conduct are laid down in the Code of Ethics and in the Compliance Code of Conduct, which applies to all employees throughout the company. The Compliance Manual, which is binding for the members of the Executive and Supervisory Boards, as well as for the members of the senior management team, takes up these principles of conduct in detail. Separate chapters are devoted to the topics "Acceptance and granting of benefits, money laundering, and product diversion".

AIXTRON does not tolerate corrupt and criminal behavior. Consistent with this approach, we compiled a comprehensive Anti-Corruption Policy years ago and published this throughout the company. The policy lays down specific rules and principles of conduct to combat corruption and bribery with the aim of protecting the excellent reputation of AIXTRON and its employees as trustworthy business partners. All members of the Executive and Supervisory Boards, senior management team members, all other company employees and all third parties representing the company must strictly follow the rules and conduct set out in the Anti-Corruption Policy, as well as all applicable laws and regulations relating to corruption and bribery.

The contents of the Anti-Corruption Policy are a basic component of company-wide compliance training. Key training objectives include raising awareness for the early detection of potential corruption and bribery risks in day-to-day work and promoting preventive anti-corruption measures. Compliance training is mandatory for members of the senior management team, as well as for all other company employees. Compliance with this requirement is monitored by our Compliance Office.

- As in the previous year, no events requiring external reporting in this respect occurred at the AIXTRON Group in the 2019 financial year.

## Data protection

We attach the utmost importance to treating the personal data of our customers, partners, and employees confidentially and in accordance with legal requirements. Data protection has been firmly anchored at our company with suitable guidelines, standards, and processes in place for many years now. Upon the introduction of the General Data Protection Regulation of the European Union (EU-GDPR), which has been in force in all member states since May 2018, we reviewed our existing processes and improved these where necessary. In implementing legal requirements, we are also supported and advised by an external and independent data protection officer. This way, we ensure that all data protection rights on the part of our employees, customers, suppliers, and business partners are safeguarded.



## GRI Content Index

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## GRI Content Index

### GRI Content Index

GRI disclosures	Disclosures/topic	Page in 2019 Sustainability Report	Note
<b>GRI 100 General disclosures</b>			
GRI 101:	FOUNDATION 2016		
GRI 102:	GENERAL DISCLOSURES 2016		
<b>1. Organizational profile &amp; strategy</b>			
GRI 102-1	Name of the organization	Cover	Imprint
GRI 102-2	Activities, brands, products and services	8-9	Annual Report
GRI 102-3	Location of headquarters	6; 60; 61	
GRI 102-4	Location of operations	6; 60	
GRI 102-5	Ownership and legal form	6; 60	
GRI 102-6	Markets served	9	Annual Report
GRI 102-7	Scale of the organization	10	
GRI 102-8	Information on employees and other workers	37-38	
GRI 102-9	Supply chain	47-50	
GRI 102-10	Significant changes to the organization and its supply chain	50	
GRI 102-11	Precautionary principle or approach	7	
GRI 102-12	External initiatives	30	
GRI 102-13	Membership of associations	17	
<b>2. Strategy</b>			
GRI 102-14	Statement from senior decision-maker	4	
<b>3. Ethics and integrity</b>			
GRI 102-16	Values, principles, standards, and norms of behavior	16	
<b>4. Governance</b>			
GRI 102-18	Governance structure	8	
<b>5. Stakeholder engagement</b>			
GRI 102-40	List of stakeholder groups	13-14	

## GRI Content Index

### GRI Content Index

GRI disclosures	Disclosures/topic	Page in 2019 Sustainability Report	Note
GRI 102-41	Collective bargaining agreements		AIXTRON is not subject to any collective bargaining agreement. In the subsidiary APEVA SE there are efforts to conclude a collective bargaining agreement.
GRI 102-42	Identifying and selecting stakeholders	14	
GRI 102-43	Approach to stakeholder engagement	13	
GRI 102-44	Key topics and concerns raised		None
<b>6. Reporting practice</b>			
GRI 102-45	Entities included in the consolidated financial statements		Annual Report
GRI 102-46	Defining reporting content and topic boundaries	15	
GRI 102-47	List of material topics	15	
GRI 102-48	Restatements of information	GRI Content Index	No changes
GRI 102-49	Changes in reporting	GRI Content Index	No significant changes
GRI 102-50	Reporting period	6; 61	
GRI 102-51	Date of most recent report	61	
GRI 102-52	Reporting cycle	61	
GRI 102-53	Contact point for questions regarding the report	57	
GRI 102-54	Claims of reporting in accordance with the GRI Standards	7	
GRI 102-55	GRI content index	54-57	
GRI 102-56	External assurance	7, 57-59	
<b>GRI 200: Economic</b>			
GRI 103	Management approach	8	
GRI 103-1	Explanation of the material topic and its boundary	15	
GRI 202-2	Proportion of senior management hired from the local community	35	
GRI 205-2	Communication and training about anti-corruption policies	52	
GRI 205-3	Confirmed incidents of corruption and actions taken	52	
<b>GRI 300: Environmental</b>			

## GRI Content Index

### GRI Content Index

GRI disclosures	Disclosures/topic	Page in 2019 Sustainability Report	Note
GRI 302-1	Energy consumption within the organization	25-27	
GRI 302-2	Energy consumption outside of the organization	27-28	
GRI 302-4	Reduction of energy consumption	24	
<b>GRI 305:</b>	<b>Emissions</b>		
GRI 305-1	Direct (Scope 1) GHG emissions	29	
GRI 305-2	Energy indirect (Scope 2) GHG emissions	29	
GRI 305-3	Other indirect (Scope 3) GHG emissions	29	
GRI 306	Effluents and waste		Waste data are collected, but currently only for the production sites.
GRI 306-1	Water discharge by quality and destination		This information is partly recorded by us, but is not currently part of the report.
GRI 306-2	Waste by type and disposal method		We record these disclosures, but they do not form part of the report.
<b>GRI 400</b>	<b>Social topics</b>		
<b>GRI 401</b>	<b>Employment</b>		
GRI 401-1	New employee hires and employee turnover	38	
GRI 401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	36	No distinction is made between full-time and part-time employees.
GRI 401-3	Parental leave	33	
<b>GRI 403</b>	<b>Health and safety</b>		
GRI 403-1	Workers representation in formal joint management-worker health and safety committees	34	
GRI 403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	34	
<b>GRI 404</b>	<b>Training</b>		
GRI 404-1	Average hours of training per year per employee	39	
GRI 404-3	Percentage of total employees by gender and by employee category who received a regular performance and career development review during the reporting period	40	
GRI 405-1	Diversity of governance bodies and employees	37-38	

\*) Reference is made within this document to those pages addressing the respective GRI content. References to which "AR" is added refer to our 2019 Annual Report

## **Independent Auditor's Report**

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### **Independent Auditor's Report**

The Supervisory Board of AIXTRON SE commissions an independent audit service provider to review the legally relevant information in the separate non-financial report. The external audit conducted by Deloitte assists the Supervisory Board in fulfilling its audit duty pursuant to § 171 (1) of the German Stock Corporation Act (AktG). The disclosures made and key figures provided in this report with regard to our sustainability activities were subject to an independent limited assurance audit by Deloitte GmbH Wirtschaftsprüfungsgesellschaft, Düsseldorf (Germany).

### **Contact for questions about this report**

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**VERMERK DES UNABHÄNGIGEN WIRTSCHAFTSPRÜFERS ÜBER EINE PRÜFUNG ZUR  
ERLANGUNG BEGRENZTER SICHERHEIT**

An die AIXTRON SE, Herzogenrath,

**Unser Auftrag**

Wir haben den gesonderten nichtfinanziellen Konzernbericht nach § 315b HGB der AIXTRON SE, Herzogenrath („das Unternehmen“) (im Folgenden „gesonderter nichtfinanzialer Bericht“) für den Zeitraum vom 1. Januar bis zum 31. Dezember 2019 einer Prüfung zur Erlangung begrenzter Sicherheit unterzogen. Dieser gesonderte nichtfinanzielle Bericht setzt sich zusammen aus den Textabschnitten, Tabellen und Grafiken des Nachhaltigkeitsberichts der AIXTRON SE, die mit einem Omega-Zeichen („Ω“) gekennzeichnet sind.

Nicht Gegenstand unseres Auftrags waren die nicht durch ein „Ω“ gekennzeichneten Abschnitte und sonstige Angaben des Nachhaltigkeitsberichts der AIXTRON SE sowie Verweise auf Internetseiten oder Expertenmeinungen, auf die im gesonderten nichtfinanziellen Bericht verwiesen wird.

**Verantwortung der gesetzlichen Vertreter**

Die gesetzlichen Vertreter der AIXTRON SE sind verantwortlich für die Aufstellung des gesonderten nichtfinanziellen Berichts in Übereinstimmung mit den §§ 315b, 315c i.V.m. §§ 289c bis 289e HGB.

Die gesetzlichen Vertreter haben sich für die Aufstellung des gesonderten nichtfinanziellen Berichts an den Sustainability Reporting Standards der Global Reporting Initiative (GRI) in der Option „Core“ orientiert und diese im gesonderten nichtfinanziellen Bericht angegeben.

Diese Verantwortung der gesetzlichen Vertreter des Unternehmens umfasst die Auswahl und Anwendung angemessener Methoden zur Aufstellung des gesonderten nichtfinanziellen Berichts sowie das Treffen von Annahmen und die Vornahme von Schätzungen zu einzelnen Angaben, die unter den gegebenen Umständen angemessen sind. Ferner sind die gesetzlichen Vertreter verantwortlich für die internen Kontrollen, die sie als notwendig bestimmt haben, um die Aufstellung eines gesonderten nichtfinanziellen Berichts zu ermöglichen, der frei von wesentlichen – beabsichtigten oder unbeabsichtigten – falschen Darstellungen ist.

**Verantwortung des Wirtschaftsprüfers**

Unsere Aufgabe ist es, auf Grundlage der von uns durchgeföhrten Prüfung ein Prüfungsurteil mit begrenzter Sicherheit über den gesonderten nichtfinanziellen Bericht abzugeben.

Wir sind von dem Unternehmen unabhängig in Übereinstimmung mit den deutschen handelsrechtlichen und berufsrechtlichen Vorschriften und wir haben unsere sonstigen beruflichen Pflichten in Übereinstimmung mit diesen Anforderungen erfüllt.

Unsere Prüfungsgesellschaft wendet die nationalen gesetzlichen Regelungen und berufsständischen Verlautbarungen zur Qualitätssicherung an, insbesondere die Berufssatzung für Wirtschaftsprüfer und vereidigte Buchprüfer sowie den IDW Qualitätssicherungsstandard: Anforderungen an die Qualitätssicherung in der Wirtschaftsprüferpraxis (IDW QS 1), die in Einklang mit dem vom International Auditing and Assurance Standards Board (IAASB) herausgegebenen International Standard on Quality Control 1 (ISQC 1) stehen.

Wir haben unsere Prüfung unter Beachtung des International Standard on Assurance Engagements (ISAE) 3000 (Revised): „Assurance Engagements Other than Audits or Reviews of Historical Financial Information“, herausgegeben vom IAASB, durchgeführt. Danach haben wir die Prüfung so zu planen und durchzuführen, dass wir mit begrenzter Sicherheit aussagen können, dass uns keine Sachverhalte bekannt geworden sind, die uns zu der Auffassung gelangen lassen, dass der gesonderte nichtfinanzielle Bericht in wesentlichen Belangen nicht in Übereinstimmung mit den §§ 315b, 315c i.V.m. §§ 289c bis 289e HGB aufgestellt worden ist. Bei einer Prüfung zur Erlangung einer begrenzten Sicherheit sind die durchgeföhrten Prüfungshandlungen im Vergleich zu einer Prüfung zur Erlangung einer hinreichenden Sicherheit weniger umfangreich, sodass dementsprechend eine erheblich geringere Prüfungssicherheit erlangt wird. Die Auswahl der Prüfungshandlungen liegt im pflichtgemäßem Ermessen des Wirtschaftsprüfers.

Im Rahmen unserer Prüfung, die wir im Februar 2020 durchgeföhrt haben, haben wir u.a. folgende Prüfungshandlungen und sonstige Tätigkeiten durchgeföhrt:

- Verschaffung eines Verständnisses über die Struktur der Nachhaltigkeitsorganisation und über die Einbindung von Stakeholdern
- Durchführung von Vor-Ort-Besuchen im Rahmen der Untersuchung der Prozesse zur Erhebung, Analyse und Aggregation ausgewählter Angaben am Konzernsitz in Herzogenrath

- Befragung relevanter Mitarbeiter, die in die Aufstellung des gesonderten nichtfinanziellen Berichts einbezogen wurden, über den Aufstellungsprozess, über die vorhandenen Maßnahmen und Vorkehrungen (System) zur Aufstellung des gesonderten nichtfinanziellen Berichts sowie über die darin enthaltenen Angaben
- Identifikation von Risiken wesentlicher falscher Angaben in dem gesonderten nichtfinanziellen Bericht
- Analytische Beurteilung von Angaben des gesonderten nichtfinanziellen Berichts
- Abgleich der Angaben im gesonderten nichtfinanziellen Bericht mit den entsprechenden Daten im Jahres- und Konzernabschluss sowie im zusammengefassten Lagebericht
- Beurteilung der Darstellung der Angaben
- Kritische Würdigung und Verwertung der Arbeit eines Sachverständigen der gesetzlichen Vertreter als Nachweis.

**Prüfungsurteil**

Auf der Grundlage der durchgeföhrten Prüfungshandlungen und der erlangten Prüfungs nachweise sind uns keine Sachverhalte bekannt geworden, die uns zu der Auffassung gelangen lassen, dass der gesonderte nichtfinanzielle Bericht der AIXTRON SE für den Zeitraum vom 1. Januar bis zum 31. Dezember 2019 in wesentlichen Belangen nicht in Übereinstimmung mit den §§ 315b, 315c i.V.m. 289c bis 289e HGB aufgestellt worden ist. Das Prüfungsurteil bezieht sich nur auf die Textabschnitte, Tabelle und Grafiken im Nachhaltigkeitsbericht der AIXTRON SE, die mit einem Omega-Zeichen („Ω“) gekennzeichnet sind. Unser Prüfungsurteil bezieht sich nicht auf die nicht durch ein „Ω“ gekennzeichneten Abschnitte und sonstige Angaben des Nachhaltigkeitsberichts der AIXTRON SE sowie Verweise auf Internetseiten oder Expertenmeinungen, auf die im gesonderten nichtfinanziellen Bericht verwiesen wird.

**Verwendungszweck des Vermerks**

Wir erteilen diesen Vermerk auf Grundlage der mit der AIXTRON SE geschlossenen Auftragsvereinbarung. Die Prüfung wurde für Zwecke der AIXTRON SE durchgeführt und der Vermerk ist nur zur Information der AIXTRON SE über das Ergebnis der Prüfung bestimmt.

**Haftung**

Der Vermerk ist nicht dazu bestimmt, dass Dritte hierauf gestützt (Vermögens-)Entscheidungen treffen. Unsere Verantwortung besteht allein der AIXTRON SE gegenüber und ist auch nach Maßgabe der mit der AIXTRON SE getroffenen Auftragsvereinbarung vom 20. Dezember 2019 / 17. Januar 2020 sowie der „Allgemeinen Auftragsbedingungen für Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften“ vom 1. Januar 2017 des Instituts der Wirtschaftsprüfer in Deutschland e.V. beschränkt. Dritten gegenüber übernehmen wir dagegen keine Verantwortung.

Düsseldorf, den 26. Februar 2020

**Deloitte GmbH**  
Wirtschaftsprüfungsgesellschaft

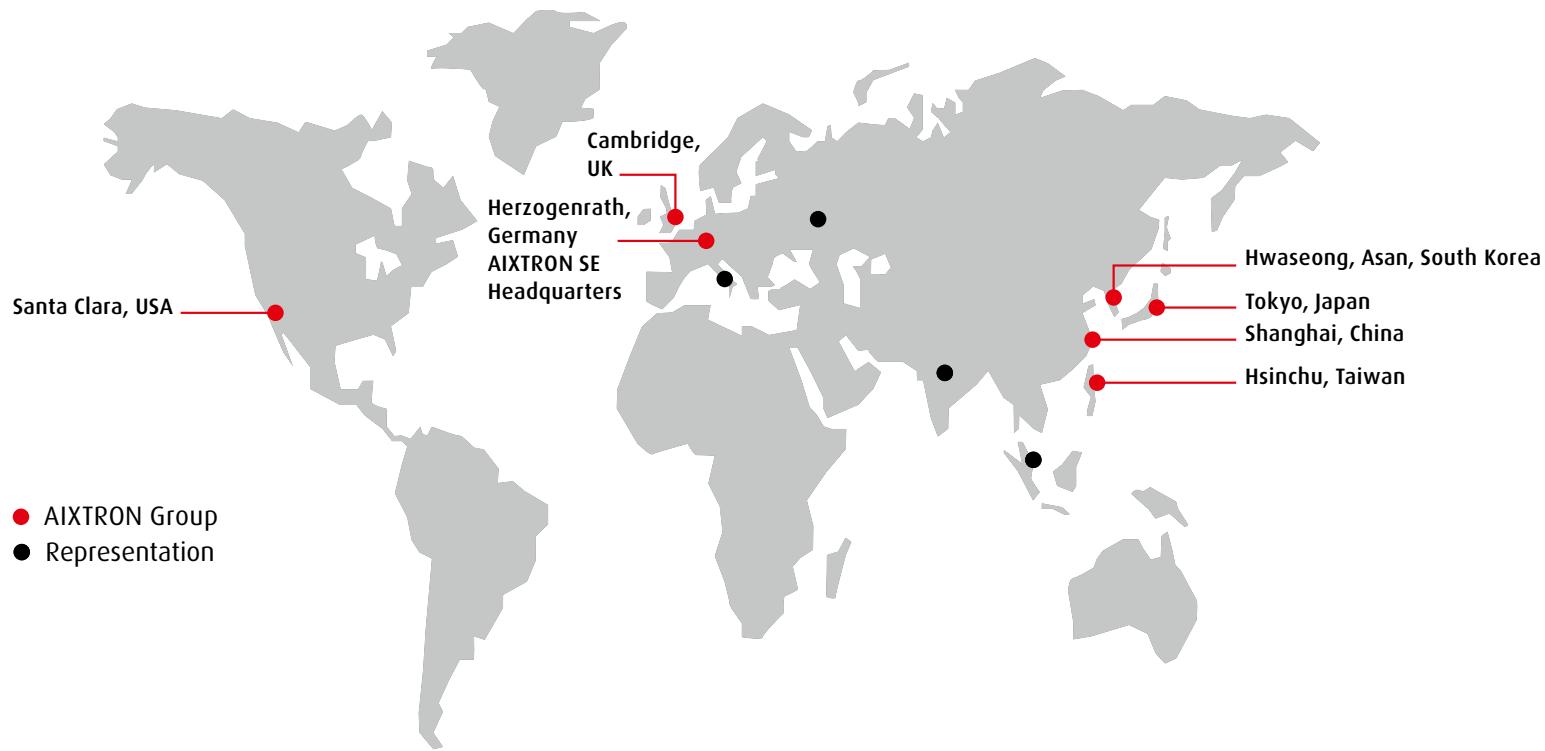


(André Bedenbecker)  
Wirtschaftsprüfer



(ppa. Dr. Matthias Schmidt)

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## Imprint

### Imprint

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