Group Management Report

Group Management Report as of December 31, 2017

This Management Report relates to the Consolidated Financial Statements of AIXTRON SE including the following subsidiaries (collectively referred to as “AIXTRON”, “the AIXTRON Group”, “the Group” or “the Company”): APEVA SE, Herzogenrath (Germany), AIXTRON, Inc., Santa Clara, California (USA); AIXTRON Ltd., Cambridge (United Kingdom); APEVA Co. Ltd. Hwasung (South Korea), AIXTRON Korea Co. Ltd., Hwasung (South Korea); AIXTRON China Ltd., Shanghai (PR of China); AIXTRON KK, Tokyo (Japan) and AIXTRON Taiwan Co. Ltd., Hsinchu (Taiwan). In conjunction with the separation of AIXTRON´s OLED activities, APEVA SE and APEVA Co. Ltd. were founded in 2017. APEVA SE is a 100% subsidiary of APEVA Co. Ltd. which is a 100% subsidiary of AIXTRON SE.

The Consolidated Financial Statements of the Company have been prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU. All financial information contained in this Management Report, including comparable prior year numbers, is reported in accordance with IFRS. Further information about the adherence to reporting standards is contained in section “Significant Accounting Policies” of the notes to the Consolidated Financial Statements.

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

Forward-Looking Statements

This document may contain forward-looking statements regarding the business, results of operations, financial condition and earnings outlook of AIXTRON. These statements may be identified by words such as “may”, “will”, “expect”, “anticipate”, “contemplate”, “intend”, “plan”, “believe”, “continue” and “estimate” and variations of such words or similar expressions. These forward-looking statements are based on the current assessments, expectations and assumptions of the executive board of AIXTRON, of which many are beyond control of AIXTRON, based on information available at the date hereof and subject to risks and uncertainties. You should not place undue reliance on these forward-looking statements. Should these risks or uncertainties materialize, or should underlying expectations not occur or assumptions prove incorrect, actual results, performance or achievements of AIXTRON may materially vary from those described explicitly or implicitly in the relevant forward-looking statement. This could result from a variety of factors, such as those discussed by AIXTRON in public reports and statements, including but not limited those reported in the chapter “Risk Report”. AIXTRON undertakes no obligation to revise or update any forward-looking statements as a result of new information, future events or otherwise, unless expressly required to do so by law. This document is an English language translation of a document in German language. In case of discrepancies, the German language document shall prevail and shall be the valid version.

1. Fundamental Information about the Group

1.1. Strategy

AIXTRON focuses on the development, manufacturing, sale and maintenance of equipment for thin-film deposition of complex materials via the MOCVD process and addresses the growing market for **optoelectronics** and **power electronics** with its products.

In the field of **optoelectronics**, AIXTRON´s systems are used by customers to manufacture lasers for optical data transmission and 3D sensor systems, be it for face recognition in smartphones (e.g. via VCSEL) or for the scanning and recognition of the environment in autonomous vehicles (e.g. LIDAR). Other applications include the manufacturing of special LEDs such as red, orange and yellow (ROY) LEDs for use in displays, blue LEDs for automotive lighting and UV LEDs for environmentally friendly water disinfection.

In the area of **power electronics**, AIXTRON´s systems are used for the production of gallium nitride (GaN) semiconductor devices ranging from highly efficient and compact smartphone power supply units to servers. There is also a strong increase in interest in manufacturing equipment for silicon carbide (SiC) devices, which are used in inverters for photovoltaics, in the wind energy sector, and increasingly in charging stations for electric vehicles as well as in their drive trains. Last but not least, AIXTRON systems are used to manufacture highly efficient devices for wireless data transmission of the current and next generation mobile network standard (4.5G and 5G).

AIXTRON focuses on markets where the use of high-technology allows for clear differentiation and creates value for customers. These include, among other things, achieving a high yield on the wafer by realizing high uniformity of the deposited layers while simultaneously maintaining high throughput, low material and maintenance costs. AIXTRON does not focus on purely price-driven markets where technical differentiation is virtually impossible. In 2017, AIXTRON deliberately withdrew from the highly competitive, low-cost mass market for blue LEDs used in general lighting applications, which is mainly supplied from China. In order to be able to address these markets profitably, AIXTRON believes that a complete localization of the value chain into China is essential.

AIXTRON pursues a platform strategy with its AIX 2800G4 and AIX G5 families of systems that are based on the planetary concept. With a high proportion of identical parts, the systems can be customized according to customer’s specification. As outlined in the previous section, this allows for a broad market access and the development of numerous applications, while at the same time enables synergies to be realized in the areas of development, purchasing and production. In addition to the AIX 2800G4 and AIX G5 system families, which address customers with high production volumes, AIXTRON sells the Epilab system series, which is based on the showerhead principle, to universities and niche markets. This series not only contributes to profitability, but also allows AIXTRON to come into contact with emerging applications at an early stage and to understand customer needs in new markets.

In addition to the MOCVD product line, AIXTRON is currently developing a second product line for thin-film deposition of organic materials, primarily for OLED displays. A first Gen1 system is in operation at an Asian display manufacturer’s R&D line. Another Gen2 system will soon be installed at the customer's facility. The activities in this area were transferred to APEVA in Q4/2017. The aim is to attract partners and investors for APEVA, who both contribute to financing as well as bringing in complementary elements of the value chain and help to establish OPVD technology as a business.

In addition to the MOCVD and OVPD product lines, AIXTRON develops technologies for the production of graphene, carbon nanotubes and carbon nanowires as part of innovation projects. These materials promise interesting future potential in a variety of applications, be it in battery or in display applications.

In 2017, AIXTRON sold, discontinued or froze a number of activities that had not been profitable until then and which did not promise to provide the expected profitability in the foreseeable future:

- The ALD/CVD product line, which is based in the USA and mainly served customers in the memory chip market, was sold to Eugene Technology. In 2017, this product line generated a negative EBIT of EUR 3.5 million and negatively affected the Group result with losses as it did in previous years. In the ALD/CVD area, AIXTRON competed with much larger manufacturers from the silicon industry and only had a small market share. As a result, the necessary expenses for the development of further product generations could not be brought into an acceptable ratio to the margin generated.
- The development activities in the area of MOCVD for compound semiconductors in logic processors on 300mm wafers (TFOS) were "frozen". The expected market opportunities for this innovative technology have not manifested themselves and were not anticipated in the near future. Therefore, no further development efforts will be invested in this field for the time being.
- In the area of OLED, development activities for thin-film encapsulation technology for OLED devices (TFE) were discontinued in 2017. The OLED activities are thus focused on OVPD technology for depositing different layers of the OLED stack.
- The OLED activities were transferred to APEVA. The aim is to further expand these in the future and to strengthen APEVA's position by collaborating with a partner who is also expected to carry part of the future development costs. Here, the main focus is currently on joint activities with the customer to qualify the technology for high-volume production. A successful market entry of this highly innovative technology depends on the willingness of customers to use OVPD technology in high-volume manufacturing.

1.2. Business Model

AIXTRON´s business activities include developing, producing and installing equipment for the deposition of complex semiconductor materials, process engineering, consulting and training, including customer support and after-sales service. AIXTRON also offers ancillary equipment and services.

AIXTRON supplies its customers with both production-scale material deposition systems and small scale systems for Research & Development (R&D) or small scale production.

Demand for AIXTRON´s products is driven by further increasing processing speed, increased requirements for energy efficiency and the necessity to reduce the cost of ownership for current and emerging power- and optoelectronic components. The ability of AIXTRON´s products to deposit thin material films precisely, enables manufacturers to improve performance, yield and quality in the fabrication process of advanced power- and optoelectronic devices.

Environmental protection and the responsible use of resources are an essential part of AIXTRON´s business strategy. The Company's engineers continuously work on improving AIXTRON´s systems, both in terms of resource conservation and environmental-friendly design and function. For further information, refer to the AIXTRON CSR-Report which is available on the AIXTRON website under www.aixtron.com/en/investors/financial-reports.

Please refer to "Risk Report" in this report for potential factors that could adversely affect the Company's business activities, model and strategy.

1.2.1. Locations

The Company has its registered office in Herzogenrath, Germany, and had a total of 11 facilities worldwide owned or rented as of December 31, 2017:

Facility location	Use	Approx. size (m²)	Lease expiry
Herzogenrath, Germany (owned)	Manufacturing	12,457	-
Herzogenrath, Germany (owned)	Headquarters, R&D, Manufacturing, Engineering	16,000	-
Aachen, Germany (leased)	R&D	200	02/28/2018
Cambridge, UK (leased)	Manufacturing, Engineering, R&D	2,180	09/16/2029
Cambridge, UK (leased)	Service, Engineering	696	06/27/2020
Santa Clara, CA, USA (leased)	Sales, Service	334	08/31/2022
Hwasung, South Korea (leased)	Sales, Service	1,151	08/09/2020
Shanghai, China (leased)	Sales, Service	594	07/31/2018
Hsinchu, Taiwan (leased)	Sales, Service	568	12/31/2020
Tainan, Taiwan (leased)	Service	109	05/27/2018
Tokyo, Japan (leased)	Sales, Service	364	09/30/2018

1.2.2. Technology and Products

AIXTRON´s product range includes customer-specific systems capable of depositing material films on a diverse range of different substrate sizes and materials.

The deposition technologies for opto and power electronics include Metal-Organic Chemical Vapor Deposition ("MOCVD") for the deposition of compound materials to produce for instance LEDs, power electronics or other optoelectronic components. PECVD is being employed for the deposition of complex Carbon Nanostructures (Carbon Nanotubes, Nanowires or Graphene).

For thin film deposition technologies for organic electronics applications including Organic Light Emitting Diodes (OLED), APEVA offers Polymer Vapor Phase Deposition (PVPD) and Organic Vapor Phase Deposition (OVPD).

AIXTRON systems predominantly work on the showerhead or planetary principle and can process wafers ranging in size between two and twelve Inches. APEVA can deliver equipment capable of processing Gen1 to Gen8 sized substrates.

AIXTRON is constantly working on the improvement of existing technologies and products. Over the course of the last three years, AIXTRON has introduced several new system generations and technologies, such as the fully automated AIX G5+C for opto & power electronics applications.

1.2.3. Patents

AIXTRON aims to secure its technology by patenting and protecting inventions, provided it is strategically expedient for the Company to do so. As of December 31, 2017, the Company had 201 patent families available (December 31, 2016: 207 patent families). For 30 patent families, patent protection was applied for during 2017. The patent protection for 10 patent families was not prolonged or expired. 26 patent families were transferred to the buyer following the sale of the ALD/CVD product line to Eugene Technology, on November 15, 2017. Patent protection for inventions is usually applied for in those markets relevant to AIXTRON, specifically in Europe, China, Japan, South Korea, Taiwan and the United States. Patents are maintained and renewed annually and will expire between 2018 and 2037. AIXTRON continually reviews its intellectual property in the light of changes in the competitive environment.

AIXTRON also has exclusive and non-exclusive licenses to patents owned by others covering certain AIXTRON products.

AIXTRON is the licensee of certain patents owned by Universal Display Corporation which are important to the Company's operations in the fields of organic material deposition.

1.2.4. Manufacturing and Procurement

AIXTRON´s manufacturing operation is involved in final assembly, configuration, test as well as the final inspection of equipment. The Company purchases components and most of the assemblies required to manufacture the equipment from third-party suppliers and contractors. AIXTRON´s contractors and suppliers are carefully selected and qualified to be able to source, supply and/or partially assemble and test individual equipment parts and sub-assemblies. For strategic reasons, there are typically several suppliers for each equipment component/assembly. However, AIXTRON single sources some key components for its systems and is therefore dependent on contracts with the specific supplier of such components. AIXTRON´s own staff manages the whole manufacturing process and in conjunction with external contractors executes the final manufacturing and testing steps.

Both of AIXTRON´s manufacturing facilities have process-oriented quality management systems certified in accordance with ISO 9001:2015. In 2017, this certification was confirmed as part of a certification audit at AIXTRON SE and AIXTRON Ltd.

The energy management system at AIXTRON SE, which has been certified in accordance with ISO 50001 since 2014, helps to ensure the efficient use of energy and protection of natural resources. In 2017, AIXTRON received the energy-efficiency award from the German Energy Agency (dena) for its energy management system.

The Company complies with national and international standards and procedures for the equipment industry that are applicable to AIXTRON products.

Under the CE marking scheme, the manufacturer declares in accordance with EU Regulation 765/2008 that the product complies with the relevant requirements governing the application of such marking as laid down in Community harmonization legislation.

To ensure acceptance in international markets, the company also complies with relevant US standards and the recommended guidelines issued by SEMI.

When developing new products and enhancing existing products, AIXTRON ensures strict compliance with requirements including the European Restriction of Hazardous Substances Directive (RoHS).

Test certificates issued by independent testing laboratories such as TÜV or Intertek document the company's compliance with relevant national and international safety requirements and guidelines.

AIXTRON commits itself and its suppliers to ethical and moral standards for the purchase and usage of conflict minerals (gold, tantalum, tin and tungsten). AIXTRON is continuously striving for transparency regarding the origin of these minerals.

1.2.5. Sales and Service

The AIXTRON Group markets and sells its products worldwide, principally through its own direct sales organization, but also through appointed dealers and sales representatives.

AIXTRON´s own Sales and Service Organization provides a full range of customer services, from the initial support of the customized development or configuration of an AIXTRON system, through to the final installation and the ongoing customer training as well as the operational support of its systems (after-sales service).

1.2.6. Employees

AIXTRON´s success very much depends on the achievements and motivation of its staff. The employees are recruited based on professional and personal qualifications and experience. Apart from the direct advertising of job opportunities to attract new employees, AIXTRON regularly participates in job fairs and other career events, has local press coverage, and enjoys close collaborative relationships with universities worldwide, including the RWTH Aachen University and the University of Cambridge.

As a global Company with an international corporate culture, AIXTRON places great value on diversity and sees it also as a competitive advantage. The overall aim is to create a productive work environment, to prevent social discrimination of any kind, and to cultivate equal opportunities.

As part of its innovation management process, AIXTRON has an employee suggestion scheme to encourage all employees to submit their ideas to improve the Company, for instance with ideas to improve processes or products or to, save cost, etc.

Management and leadership quality of an organization also have great impact on the success of a company. AIXTRON promotes these qualities within a specific leadership program, coaching members of the management team in management and team building techniques.

In 2017, the total number of employees decreased by 18%, from 705 employees at the end of 2016 (2015: 748) to 581 at December 31, 2017. This development is mainly driven by the sale of the ALD/CVD product line. As in previous years, the majority of AIXTRON´s worldwide employees were based in Europe.

For further information on employee matters, refer to the AIXTRON CSR-Report which is available on the AIXTRON website under www.aixtron.com/en/investors/financial-reports.

1.2.7. Customers and Geographic Regions

Among other areas of activity, AIXTRON´s semiconductor device customers are engaged in the manufacturing of LEDs, lasers, high frequency devices, power electronics and other optoelectronic devices. Some of these customers are vertically integrated device manufacturers who serve the entire value chain as far as the end consumer. Others are independent component suppliers who deliver chips and components produced on AIXTRON equipment to the next link in the value chain, namely, the electronic device manufacturers. The Company's customers also include research centers and universities. Most of the world's leading electronic device manufacturers produce in Asia and consequently, the majority of AIXTRON sales continue to be delivered into this region.

See also "Development of Revenues" in this report for a breakdown of revenues by region.

1.2.8. Government Regulation

As part of its international business activities, AIXTRON is subject to numerous domestic and foreign laws, regulations and ordinances, such as public law, trade, customs, labor, capital market, tax and competition regulations.

Due to the nature of AIXTRON´s products, the shipment of some products to customers in certain countries requires the Company to obtain an export license from statutory authorities in Germany, the UK and the US, including, for example, the Bundesamt für Wirtschaft und Ausfuhrkontrolle, BAFA in Germany, the Department for International Trade in the UK as well as the Department of State and the Department of Commerce in the US.

Research and development activities, as well as the manufacturing and demonstration of the Company's products involve the use of potentially harmful chemical and hazardous materials and radioactive compounds and as a result, AIXTRON is subject to stringent environmental and safety regulations in connection with its business operations (such as industrial safety regulations, the ordinance on hazardous substances, labor protection laws or the workplaces ordinance).

The Company is also subject to other regulations, for example the provisions of the US Foreign Corrupt Practices Act and the UK Bribery Act relating to the maintenance of books and records and anti-bribery controls. AIXTRON has an anti-corruption guideline in place which is mandatory for every AIXTRON employee.

In 2017, there were no changes with respect to the legal framework that had a substantial impact on the Group's operating activities or its net assets, financial position and results of operations.

1.3. Management and Control

As of December 31, 2017, AIXTRON´s Executive Board (Management) consisted of the following two individuals:

Name	Position	Since	End of Term
Dr. Felix Grawert	President	August 14, 2017	August 13, 2020
Dr. Bernd Schulte	President	April 1, 2002	March 31, 2021

As of December 31, 2017, AIXTRON´s Supervisory Board consisted of the following six individuals:

Name	Position	Member since	End of Term
Kim Schindelhauer[1)2)3)4)5)7)]	Chairman of the Supervisory Board,	2002	AGM 2019
Prof. Dr. Wolfgang Blättchen[1)4)7)]	Deputy Chairman of the Supervisory Board, Chairman of the Audit Committee, Independent Financial Expert[6)]	1998	AGM 2019
Dr. Andreas Biagosch[2)]		2013	AGM 2021
Prof. Dr. Petra Denk[2)3)]	Chair of the Technology Committee	2011	AGM 2021
Dr. Ing. Martin Komischke		2013	AGM 2021
Prof. Dr. Rüdiger von Rosen[1)3)]	Chairman of the Nomination Committee	2002	AGM 2018

[1)] Member of the Audit Committee
[2)] Member of the Technology Committee
[3)] Member of the Nomination Committee
[4)] Member of the Capital Market Committee
[5)] Former AIXTRON Executive Board Member
[6)] Since 2005
[7)] except March 1-August 31, 2017

Martin Goetzeler left the Company effective February 28, 2017. On June 8, 2017, Dr. Felix Grawert was appointed as a new member to the Executive Board and assumed his position on August 14, 2017. Dr. Bernd Schulte and Dr. Felix Grawert jointly lead the Company. Between March 1st, 2017 and August 31st, 2017, AIXTRON Supervisory Board Chairman Kim Schindelhauer was interim CEO and CFO of the Company.

Information to the collaboration between Supervisory and Executive Boards of AIXTRON SE as well as to the management procedures, diversity concept and corporate governance are explained in the Corporate Governance Report which is available on the AIXTRON website under www.aixtron.com/en/investors/corporate-governance/.

1.4. Research and Development

In addition to the state-of-the-art R&D center at its headquarters in Herzogenrath, AIXTRON also operates R&D laboratories in Aachen (Germany) and in Cambridge (United Kingdom). These in-house laboratories are equipped with AIXTRON systems and are used to research and develop new equipment, materials and processes for the production of semiconductor structures.

AIXTRON´s R&D activities in 2017 included development programs for new products as well as continual improvement programs for AIXTRON´s existing products. Design-to-Cost-activities have been implemented for numerous R&D projects in order to reduce material costs on a continuous basis e.g. by improving the design of externally procured components. AIXTRON is also working on customer-specific development projects and often does research within the framework of publicly funded projects.

The Company's R&D capability remains of important strategic significance, as it provides for a competitive, leading edge technology portfolio and supports the future business development. Therefore, AIXTRON is committed to investing specifically in research and development projects to retain or to expand the Company's leading technology position in MOCVD equipment for applications such as lasers, specialty-LEDs and for the production of wide band gap materials for Power Electronics. These expenditures are monitored very closely. The Company's R&D program in 2017 comprised a team of an average of more than 200 highly skilled R&D employees.

For more information regarding R&D expenses from 2015 through 2017, refer to “Development of Results” in this report.

The following provides specific examples of AIXTRON´s research and development activities in fiscal year 2017:

The project “**MOCVD 4.1**” is focused on the implementation of new digital technologies and Industry 4.0 principles for AIXTRON MOCVD equipment. The “**HEA2D**” project works on the exploration of the manufacturing, quality and application of 2D nanomaterials.

Objective of the project **MOCVD 4.1** is the implementation of Industry 4.0 approaches with concepts for automated and connected machines, intelligent software, analyses with precision close to the physical limits and corresponding process control in order to meet customer expectations of a versatile and highly flexible key technology in conjunction with frequently changing customer requirements, processes, products and material systems.

The collaborative project **HEA2D** with five partners is researching various deposition processes for 2D materials, processes for transfer of 2D materials onto plastic foils, and mass integration into plastics components. 2D materials have the potential to create integrated and systematic product and production solutions that are sustainable in social, economic, and ecological terms. One particular AIXTRON subproject focuses on processes and systems technology for the deposition of advanced optically active 2D semiconductor materials such as molybdenum sulfide or graphene. The progress made in the project were presented to the scientific community and potential customers.

2. Report on Economic Position

2.1. Global Economy

As a producer of capital goods, AIXTRON is affected by the global economic conditions as far as they have an influence on its supply chain and costs as well as on its customers' sales projections and therefore on their investment behavior.

The global economic upswing that began in the middle of 2016 continued in 2017 and has also broadened significantly. An increasing economic momentum in industrialized and emerging market countries, meets with a continuing favorable financing environment. In addition, global trade has increased significantly in recent months. Due to the high asset valuations on the financial markets, there is potential for a setback in connection with the gradual normalization of monetary policies. Furthermore, the International Monetary Fund (IMF) warns in its January update of its World Economic Outlook dated January 22, 2018 of the medium- to long-term risks such as persistently low inflation in the advanced economies, a faster and stronger deterioration of the financing environment, geopolitical tensions or increasing protectionism. For the full year 2017, the IMF forecast global economic growth of 3.7%, well above the previous year's level (2016:3.2%). It expects growth of 2.3% (2016:1.7%) in the advanced economies and 4.7% (2016:4.3%) in the emerging and developing countries.

However, this global economic environment had no significant effects on AIXTRON´s business development in fiscal year 2017 as AIXTRON is more dependent on industry developments and in particular innovation-driven industry specific business developments such as the introduction of new applications in consumer electronics or trend driven demand growth of semiconductors.

The development of the US dollar exchange rate in 2017 was largely determined by economic policy uncertainties in the U.S. and the potential turnaround in the ECB's monetary policy. Both had a negative impact on the value of the US dollar over the course of the year thus, following an initial sideways movement in the first quarter of 2017, the exchange rate began a long-term upward movement from mid-April to its high for the year of USD/EUR 1.203 on September 8. The US dollar moved sideways again at this level until the end of the year and closed at 1.201 USD/EUR (2016: 1.055 USD/EUR) on December 31, 2017, around 12% weaker than in the previous year. The average exchange rate used by AIXTRON to translate income and expenses denominated in US dollars in fiscal year 2017 was 1.13 USD/EUR (Q1/2017: 1.07 USD/EUR; Q2/2017: 1.09 USD/EUR; Q3/2017: 1.17 USD/EUR; Q4/2017: 1.18 USD/EUR) which means a 2% weaker US dollar compared to the previous year (2016: 1.11 USD/EUR).

AIXTRON Management continues to carefully monitor the developments of the global economy and the financial markets to then decide what can potentially be done to mitigate negative exogenous effects on AIXTRON´s business. As of December 31, 2017, no currency hedging contracts were in place.

2.2. Competitive Positioning

AIXTRON´s main competitor in MOCVD applications remains Veeco Instruments Inc. (USA) (Veeco). AIXTRON also competes with a number of Asian manufacturers including Taiyo Nippon Sanso (Japan). Further companies continue to attempt to qualify their own MOCVD tools with customers. For example, Technology Engine of Science Co. Ltd. (South Korea) or Nuflare Technology Inc. (Japan) are known to be active in the development of in-house equipment solutions for the production of LEDs. Certain Chinese companies, such as Advanced Micro-Fabrication Equipment Inc. or Tang Optoelectronics Equipment (Shanghai) Corporation Limited have successfully qualified their MOCVD equipment for the Chinese LED market, supported by respective government initiatives.

Based on the latest published market share research by Gartner Dataquest (Forecast: Semiconductor Manufacturing Equipment, Worldwide, April 2017), it was estimated that the share of the worldwide MOCVD equipment market (estimated 2016 total market value: USD 255 million) held by AIXTRON in 2016 was around 55%. Particularly due to stronger investments from blue LED applications in China, the market share is expected to come down in 2017. In the same report, the Company’s strongest competitor in terms of sales, Veeco Instruments Inc., had an estimated market share of approximately 37%. Due to the competitive environment in the blue LED market, AIXTRON is targeting markets for high quality products, such as laser sensors, power electronics or specialized LED applications, with the aim of maintaining a sustainable market leading position.

For emerging Organic Semiconductor applications, AIXTRON´s subsidiary APEVA competes with established manufacturers such as Canon Tokki Corporation (Japan), Ulvac, Inc. (Japan), SNU Precision (South Korea), Sunic System (South Korea) and a number of other smaller companies. While these competitors use vacuum thermal evaporation (VTE) to produce OLEDs, AIXTRON offers the highly innovative OVPD® large area deposition technologies. APEVA believes that these technologies are technically superior to traditional VTE and polymer technology processes and result in lower OLED fabrication costs. APEVA is positioning itself as an alternative deposition system supplier for next generation OLEDs such as displays, future lighting, solar cells, and other electronic OLED applications.

2.3. Key Target Markets

2.3.1. LED Market

In 2017, the market for LED devices which can be produced with AIXTRON´s compound semiconductor MOCVD equipment, was expected to have grown by 11% measured in units according to a report from LEDinside, an independent semiconductor market research institute, published in August 2017. According to industry sources, LED prices have stabilized throughout the year and therefore LEDinside predicted growth in the LED markets by 7.5% to USD 17.1 billion in 2017 from USD 15.9 billion in 2016.
In the more recent forecast “Semiconductor Manufacturing Equipment, Worldwide, 4Q17 Update” (December 2017) Gartner Dataquest anticipated that the total value of the 2017 MOCVD equipment market would increase to approximately USD 453 million. Veeco and AIXTRON are expected to remain the main players in this market with AMEC expected to see fastest growth in China.

2.3.2. Laser based 3D Sensor Market

Edge and surface emitting lasers (VCSELs) are increasingly used for 3D sensor applications in consumer electronics, industry and the automotive sector. This is the main reason for an increase in laser demand.

In 2017, a leading smartphone manufacturer began using laser-based 3D sensor functions in their products. According to a report by the Japanese Investment Bank DAIWA in June 2017, the introduction of 3D sensors in smartphones, in the automotive sector, as well as in other sectors such as gaming and robotics will result in a total estimated market value of USD 1 billion in 2017 and is expected to exceed USD 10 billion in 2020.

2.3.3. Laser based Optical Data Transmission Market

Lasers that can be produced with AIXTRON equipment are one of the most important components for optical data transmission. The volume of data transmitted via fiber optic cables is currently growing exponentially, driven by the increasing use of internet services, especially video-on-demand and by the communication of connected devices via the internet ("Internet-of-things"). The increase in worldwide data traffic due to mobile telecommunications and data transfer via fiber optics raises the demand for lasers as optical signal transmitters, photodiodes as receivers as well as optical amplifiers and switches.

Market research companies such as Ovum, IDC or Frost and Sullivan expect investments in laser communication to increase to support the growth of data traffic. According to a study by IDC, global data traffic will grow from 8 Zettabyte in 2015 to 160 Zettabyte by 2025.

2.3.4. Wide-Band-Gap (WBG) Gallium nitride (GaN) and Silicon Carbide (SiC) power semiconductor market

Power semiconductors based on wide-band-gap (WBG) materials enable the production of very compact and highly efficient AC-DC and DC-DC converters. They are finding increasing use in a wide range of applications, ranging from low (e.g., power supply of smartphones) to highest performance (e.g., rapid charging station for electric vehicles) devices.

Based on the opinion of multiple market research institutes such as Yole Développement, IHS and Gartner, the penetration of WBG devices relative to total power device market was expected to rise from low single digits in 2016 to low double digits in 2021. According to the market research institute Yole Développement (August 2017), the market for Wide-Band-Gap (WBG) Gallium nitride (GaN) and Silicon Carbide (SiC) based power management devices is expected to grow from USD 257 million in 2016 to USD 300 million in 2017.

2.3.5. OLED Display Market

The market for OLED displays has been significantly influenced by the use in mobile phones in recent years.
For the coming years, AIXTRON expects a further increase in the use of OLED displays in mobile devices mainly driven by Apple and Chinese smartphone makers. An additional catalyst could be the emergence of foldable displays and TVs.

Third party research houses, such as UBI Research or Display Supply Chain, expect the OLED industry’s revenue to more than triple in size to ~USD 50bn in 2021, from USD 15bn in 2016.The industry is looking for solutions to enable next generation displays through innovative manufacturing processes, while further reducing cost.

2.4. Business Development

The business development in 2017 was impacted by the repositioning of the AIXTRON´s technology portfolio. The portfolio was focused on product lines which are profitable or promise to generate a significant return on investment in the near term. Consequently, a number of activities have been sold, stopped or frozen as described in chapter “strategy” of this report. In particular the sale of the ALD/CVD product line for memory chips generated other operating income of EUR 23.9 million and a cash flow of EUR 51.0 million. Revenues in 2017 increased by 21% which was partially driven by higher demand for MOCVD equipment to produce LEDs including red-orange-yellow and specialty LEDs. These represented the largest contributor to AIXTRON´s equipment revenues with 42%, followed by equipment sales for optoelectronics with 25% which was driven by market demand for lasers for applications such as 3D-sensing or optical data communication.

As AIXTRON generates a significant share of its revenues in foreign currencies in particular in US dollars, the weakening of the USD/EUR exchange rate in the course of the year 2017 had corresponding effects on AIXTRON´s revenues and results of operation.

2.5. Results of Operations

2.5.1. Development of Orders

Orders	**2017**	**2016**	**2015**	**2017-2016**	
(in EUR million)	**Full Year**	**Full Year**	**Full Year**	m EUR	%
Total order intake incl. spares & services	263.8	225.1	167.1	38.7	17
Equipment order backlog (end of period)	108.6	78.1	42.9	30.5	39

The 2017 US dollar based **order intake and backlog** have been recorded at the prevailing budget exchange rate of 1.10 USD/EUR (2016: 1.10 USD/EUR; 2015: 1.25 USD/EUR). The 2018 budget exchange rate was set at 1.20 USD/EUR. Spares & service orders are not included in order backlog.

In 2017, **total order intake** including spares & service was 17% higher year-on-year at EUR 263.8 million (2016: EUR 225.1 million; 2015: EUR 167.1 million). This development was mainly driven by stronger equipment demand from laser (incl. VCSEL) and memory applications. The product line for memory was sold to Eugene Technology in Q4/2017.

The **equipment order backlog** of EUR 108.6 million as at December 31, 2017 was 39% higher than the EUR 78.1 million opening backlog at the beginning of 2017, both recorded at the 2017 budget exchange rate of 1.10 USD/EUR. Converted at the 2018 budget exchange rate, the 2018 opening backlog was EUR 102.5 million.

As a matter of internal policy, AIXTRON follows clear internal requirements before recording and reporting received equipment orders as order intake and order backlog. These requirements comprise of all of the following minimum criteria:

1. the receipt of a firm written purchase order,
2. the receipt of the agreed deposit,
3. accessibility to the required shipping documentation,
4. a customer confirmed agreement on a system specific delivery date.

In addition, and reflecting current market conditions, the Company’s Management reserves the right to assess whether the actual realization of each respective system order is sufficiently likely to occur in a timely manner. When Management concludes, that there is an insufficient likelihood of realizing revenue on an order or that there is an unacceptable degree of risk of attached to it, Management will exclude the order, or a portion of the order from the recorded order intake and order backlog figures until the risk has reduced to an acceptable level. The backlog is being regularly assessed and adjusted if necessary to reflect potential execution risks.

2.5.2. Development of Revenues

Revenues in fiscal year 2017 were particularly influenced by a low margin inventory clearance of the remaining AIX R6 GaN LED tools as well as the sale of the ALD/CVD product line for memory, which was closed on November 15, 2017.

In fiscal year 2017, AIXTRON recorded **total revenues** of EUR 230.4 million, which was an increase of 17% compared to the previous year (2016: EUR 196.5 million; 2015: EUR 197.8 million). The 2017 **equipment revenues** increased by 21% to EUR 188.0 million (2016: EUR 155.7 million; 2015: EUR 151.0 million), driven amongst others by demand for MOCVD equipment for LEDs including red-orange-yellow and specialty LEDs. These represented the largest contributor to AIXTRON´s equipment revenues with 42%, followed by equipment sales for optoelectronics with 25%.

EUR 42.4 million or 18% of total revenues in 2017 were generated by sales of **spare parts and service**.

Revenues by Equipment, Spares & Service	2017		2016		2015		2017-2016	
(in EUR million)	EUR m	%	EUR m	%	EUR m	%	EUR m	%
Equipment revenues	188.0	82	155.7	79	151.0	76	32.3	21
Service, spare parts, etc.	42.4	18	40.8	21	46.8	24	1.6	4
Total	**230.4**	**100**	**196.5**	**100**	**197.8**	**100**	**33.9**	**17**

With 75% of total revenues, Customers from Asia again represented the largest share.

Revenues by Region	2017		2016		2015		2017-2016	
	EUR m	%	EUR m	%	EUR m	%	EUR m	%
Asia	172.3	75	128.0	65	118.4	60	44.3	35
Europe	29.2	13	30.8	16	35.8	18	-1.6	-5
Americas	28.9	12	37.7	19	43.6	22	-8.8	-23
Total	**230.4**	**100**	**196.5**	**100**	**197.8**	**100**	**33.9**	**17**

2.5.3. Development of Results

Cost Structure

	2017		2016		2015		2017-2016	
	Full Year		Full Year		Full Year			
	EUR	%	EUR	%	EUR	%	EUR	
	m	Rev.	m	Rev.	m	REv.	m	%
Cost of sales	**156.4**	**68**	**140.2**	**71**	**147.9**	**75**	**16.2**	**12**
Gross profit	**74.0**	**32**	**56.3**	**29**	**49.8**	**25**	**17.7**	**31**
Operating expenses	**69.1**	**30**	**77.7**	**40**	**76.5**	**39**	**-8.6**	**-11**
Selling expenses	10.2	4	13.8	7	11.5	6	-3.6	-26
General and administration expenses	17.1	7	17.1	9	16.3	8	0.0	0
Research and development costs	68.8	30	53.9	28	55.4	28	14.9	28
Other operating expenses (income)	(27.0)	-12	(7.2)	-4	(6.7)	-3	19.8	275

Cost of Sales, Gross Profit, Gross Margin

In 2017, although cost of sales increased year-on-year they did not increase as fast as revenues, which grew by 12% from EUR 140.2 million to EUR 156.4 million. This was mainly due to a larger portion of higher margin products which more than offset a number of effects. Those included low margin sales of AIX R6 tools from inventory as well as write downs from having frozen further technology development of products for three-five on silicon materials (TFOS: EUR 1.0 million in Q1/2017) as well as for thin film encapsulation (TFE: EUR 1.3 million in Q2/2017). Consequently, 2017 cost of sales relative to revenues decreased to 68%. Against this background, the Group's **gross profit** in 2017 increased year-on-year to EUR 74.0 million, resulting in an improved **gross margin** of 32%.

Operating Costs

With EUR 69.1 million, total **operating costs** in 2017 were 11% lower than the previous year's figure (2016: EUR 77.7 million; 2015 EUR 76.5 million). The operating costs included restructuring effects of EUR 12.8 million from the previously described freezing of TFOS and TFE activities as well as positive effects from the sale of the ALD/CVD product line for memory chips. The operating costs relative to revenues decreased in 2017 to 30%.

This development was influenced by the following factors:

Selling, general administration expenses in 2017 decreased in absolute terms to EUR 27.3 million (2016: EUR 30.9 million; 2015: EUR 27.8 million) due to restructuring related write downs in combination with lower cost following the sale of the product line for memory chips. SG&A expenses of the previous year included write downs in China. Selling, general administration expenses relative to revenues were down at 12% (2016: 16%; 2015: 14%).

Research and development costs increased by 28% year-on-year from EUR 53.9 million in 2016 to EUR 68.8 million in 2017, which included the effects from write downs of development activities (TFOS, TFE) as well as increased OLED technology related development activities

Key R&D Information	2017	2016	2015	2017-2016
	Full Year	Full Year	Full Year	
R&D expenses (million EUR)	68.8	53.9	55.4	28%
R&D expenses, % of sales	30	27	28	

The **average number of group employees** in 2017 declined from 721 in 2016 to 675 (2015: 757), mainly due to the sales of the ALD/CVD product line including its employees to Eugene technology in Q4/2017. At the reporting date of December 31, 2017, the **number of group employees**, decreased from 705 as per December 31, 2016 to 581 (December 31, 2015: 748) mainly due to the above mentioned sale of the ALD/CVD product line. **Personnel costs** of EUR 60.9 million in 2017 were below the EUR 63.1 million in 2016.

Net other operating income and expenses for fiscal year 2017 resulted in an income of EUR 27.0 million million (2016: EUR 7.2 million; 2015: EUR 6.7 million) which was mainly due to the positive contribution of EUR 23.9 million from the successful sale of the ALD/CVD product line for memory chips.

In 2017, the Company recorded a **net currency loss** of EUR -0.6 million (2016: EUR -0.2 million net loss; 2015: EUR 2.7 million net profit) resulting from currency transaction and translation differences of balance sheet positions.

The EUR 3.2 million of **R&D grants** received in 2017 (2016: EUR 2.1 million; 2015: EUR 3.0 million), were recorded as ”other operating income”.

Operating Result (EBIT)

The **absolute operating result** (EBIT) improved in a year-on-year comparison significantly to EUR 4.9 million from EUR -21.4 million in 2016 (2015: EUR -26.7 million) resulting in a EBIT margin of 2% (2016: -11%; 2015: -14%). This is attributable primarily to the afore-mentioned operational and cost development and to the successful sale of the ALD/CVD product line for memory chips.

Result Before Taxes

Result before taxes in 2017 improved year-on-year significantly to EUR 5.2 million from EUR -21.0 million in 2016 (2015: EUR -26.0 million), including a net finance income of EUR 0.6 million.

Interest & Taxes	2017	2016	2015	2017-2016	
	m EUR	m EUR	m EUR	m EUR	%
Net Interest Income/Expense	**0.6**	**0.5**	**0.8**	**0.1**	**20**
Interest Income	0.7	0.6	0.8	0.1	17
Interest Expenses	-0.1	-0.1	0.0	0.0	n.m.
Tax Expenses	**1.0**	**-3.1**	**-3.2**	**4.1**	**-132**

Following the recognition of regional tax loss carry forwards in the amount of EUR 3.6 million, AIXTRON recorded a country specific **tax income** of EUR 1.0 million (2016: tax expense of EUR 3.1 million; 2015: tax expense of EUR 3.2 million). Unrecognized **deferred tax assets** related to tax losses at December 31, 2017 totaled EUR 169.7 million (2016: EUR 185.0 million; 2015: EUR 161.2 million).

Profit/Loss Attributable to the Equity holders of AIXTRON SE (after taxes)

The 2017 Net Profit attributable to the equity holders of AIXTRON SE was EUR 6.5 million or 3% of revenues compared to EUR -24.0 million (-12% of revenues) in 2016 (2015: EUR -29.2 million or -15% of revenues).

Net Result AIXTRON SE – Use of Results

In 2017, AIXTRON SE, the parent company of the AIXTRON Group, achieved a net profit. The accumulated loss in accordance with German generally accepted accounting principles, (German GAAP) based on the German Commercial Code, HGB, was EUR -113.3 million for 2017 (2016: loss of EUR -120.5 million; 2015: loss of EUR -87.3 million).

The 2017 loss will be carried forward and consequently no dividend payment shall be made for 2017 (2016: no dividend; 2015: no dividend).

2.6. Financial Position

2.6.1. Corporate Financial Management

AIXTRON has a central financial management system to control its global liquidity, interest and currency management.

Due to the volatile nature of the semiconductor business, a sufficient level of cash is essential to expeditiously finance potential business needs. The Company's need for cash is generally provided for through operating cash flows. In order to secure future financing and support the indispensable R&D activities, the Company has access to a strong equity capital base. Furthermore, approved by the Annual General Meeting, and subject to Supervisory Board approval, the Company has the authority to issue equity instruments to be able to raise additional liquidity on the capital market if required.

AIXTRON conducts a large part of its business in foreign currencies, i.e. in currencies other than the Euro. The most prevalent foreign currency relevant to AIXTRON is the US Dollar. Unfavorable exchange rate movements, especially the US Dollar/Euro exchange rate, may adversely affect the Company's results of operation. In order to manage foreign exchange risks, the Company routinely monitors if and to what extent currency hedging instruments should be used. As of December 31, 2017, no hedging contracts were in place.

2.6.2. Funding

AIXTRON SEs stated **share capital** as of December 31, 2017 amounted to EUR 112,924,730 (December 31, 2016: EUR 112,804,105; December 31, 2015: EUR 112,720,355) divided into 112,924,730 registered shares with a proportional interest in the share capital of EUR 1.00 per no-par value registered share. All registered shares are fully paid in

The Company has a number of **stock option programs** in place that grant the members of the Executive Board and employees the right to purchase AIXTRON shares under certain conditions. In fiscal year 2017, 120,625 stock options (2016: 83,750; 2015: 25,800) were exercised, resulting in delivery of in total 120,625 ordinary shares. In fiscal year 2017, no new stock options were granted (2016: 0; 2015: 0).

AIXTRON ordinary shares	Dec 31, 2017	Exercised	Expired/Forfeited	Allocation	Dec 31, 2016
Stock options to acquire shares	1,533,765	120,625	663,400	0	2,317,790

A more detailed description of the different stock option plans and a summary of all the stock option transactions can be found in Note 23 to the Company's Consolidated Financial Statements "Share-based payments".

The Company recorded no **bank borrowings** as of December 31, 2017, 2016 and 2015.

The **equity ratio** was 81% as of December 31, 2017, compared to 85% as of December 31, 2016 (December 31, 2015: 82%).

Return on equity (ROE) for the year was 1.8% (2016: - 6%; 2015: -7%).

In order to finance future developments, the Company regularly explores and assesses potential funding opportunities available in the market.

2.6.3. Investments

The AIXTRON Group's total capital expenditures in fiscal year 2017 amounted to EUR 9.7 million (2016: EUR 5.3 million; 2015: EUR 13.3 million).

In 2017, EUR 8.9 million (2016: EUR 4.9 million; 2015: EUR 12.5 million) were related to property, plant and equipment (including testing and laboratory equipment). The remaining EUR 0.8 million in 2017 (2016: EUR 0.4 million; 2015: EUR 0.7 million) were related to intangible assets including software licenses.

In 2018, investments will again be made mainly for laboratory and test equipment.

The decrease of EUR 19.5 million in bank deposits with a maturity of at least three months during 2017 was recorded as cash inflow from investing activities (2016: decrease of EUR 52.8 million; 2015: decrease of EUR 60.5 million).

All 2017, 2016 and 2015 expenditures were funded out of own available cash resources.

2.6.4. Liquidity

Cash and cash equivalents including cash deposits with a maturity of at least three months, most of which is held in Euros (also see "Investments"), increased by 54% or EUR 86.1 million to EUR 246.5 million (EUR 219.8 million + EUR 26.7 million) as of December 31, 2017 (December 31, 2016: EUR 160.1 million, equaling EUR 120.1 million + EUR 40.0 million; December 31, 2015: EUR 209.4 million, equaling EUR 116.3 million + EUR 93.1 million).

The difference is attributable to the positive business development and the sale of the ALD/CVD product line for EUR 51.0 million. The increase in cash and cash equivalents includes temporary advance payments of EUR 11.7 million which AIXTRON will pay out in full during 2018 mainly to suppliers of the ALD/CVD activity and which will reduce cash flow in 2018 by that amount.

There are no restrictions on the Company's use of cash resources.

2.6.5. Development of Cash Flows

In fiscal year 2017, a **cash flow from operating activities** of EUR 70.1 million was recorded (2016: EUR -37.7 million; 2015: EUR -45.7 million). The improvement in operating cash flow in 2017 is mainly driven by the improved profitability, reductions in working capital and the sale of the ALD/CVD product line.

A **cash flow from investment activities** of EUR 40.7 million was recorded in 2017 (2016: cash flow of EUR 43.4 million; 2015: cash flow of EUR 41.2 million). This figure includes an inflow of EUR 30.9 million from the sale of assets from the ALD/CVD product line as well as well as an inflow from the liquidation of bank deposits with a maturity of at least three months in the amount of EUR 9.7 million during 2017 (2016: 5.3 million 2015: EUR 13.3 million). This effect was partially offset by the previously described investments.

In 2017, the **cash flow from financing activities** of EUR 1.1 million (2016: cash flow of EUR 0.3 million; 2015: cash flow of EUR -0.1 million) was recorded mainly from the proceeds from the issue of new shares.

2.7. Assets

Assets increased year-on-year to a total of EUR 455.1 million (2016: EUR 436.2 million; 2015: EUR 482.0 million).

2.7.1. Property, Plant and Equipment

Property, plant and equipment of EUR 64.3 million as of December 31, 2017 (EUR 74.2 million as of December 31, 2016; EUR 81.3 million as of December 31, 2015) included regular and accelerated depreciation of equipment. Most of the additions during 2017 related to the ALD/CVD product line and were disposed of in November 2017.

2.7.2. Goodwill

The value of goodwill was at EUR 71.2 million at December 31, 2017 below the EUR 74.6 million at December 31, 2016 (December 31, 2015: EUR 75.9 million) The difference is related to the sale of the ALD/CVD product line and exchange rate fluctuations. There were no impairments in 2017. For further information on the impairment test for goodwill, refer to Note 12 to the Company's Consolidated Financial Statements "Intangible assets".

2.7.3. Other Intangible Assets

The value of other intangible assets decreased to EUR 1.8 million at December 31, 2017 (EUR 5.4 million at December 31, 2016; EUR 6.4 million at December 31, 2015) mainly due to amortization and changes to the way AIXTRON acquires software licenses.

2.7.4. Inventories

Inventories decreased to EUR 43.0 million at December 31, 2017, compared to EUR 54.2 million at December 31, 2016 (EUR 70.8 million as of December 31, 2015), reflecting the sale of AIX R6 inventory in H1/2017 and the sale of the ALD/CVD product line. Inventory turns were 3.6 times at the end of 2017 (2016: 4.5 times).

2.7.5. Trade Receivables

Trade receivables decreased to EUR 19.3 million as of December 31, 2017 (December 31, 2016: EUR 60.2 million; December 31, 2015: EUR 26.0 million) mainly due to timing reasons, representing 29 days outstanding.

2.7.6. Liabilities

Trade payables as of December 31, 2017 were stable compared to December 31, 2016 (December 31, 2017: EUR 14.3 million, December 31, 2016: EUR 14.6 million, December 31, 2015: 9.8 million). **Provisions** (current and non-current) increased from EUR 18.3 million as of December 31, 2016 to EUR 22.7 million as of December 31, 2017 (December 31, 2015: EUR 21.5m) in line with increased business volume. **Advance payments from customers** as of December 31, 2017 increased to EUR 30.3 million compared to EUR 26.1 million as of December 31, 2016 (December 31, 2015: EUR 24.0m), reflecting the increased order backlog. **Other current liabilities** increased to EUR 15.5 million as of December 31, 2017 mainly due to liabilities assumed with the sale of the ALD/CVD product line (December 31, 2016: EUR 2.4 million; December 31, 2015: EUR 25.0 million).

2.8. Financial Performance Indicators

The Executive Board has implemented dedicated control systems and procedures to manage, monitor, analyze, and document risks and opportunities for the group, including a key performance indicator system addressing relevant product groups.

The most relevant performance indicators for AIXTRON are order intake, revenues, gross margin, EBIT and cash flow. The objective of these controls is to ensure that profitable revenue growth is matched with cost and asset efficiency to achieve sustainable value generation.

2.9. Management Assessment of Company Situation

After the failure of the planned takeover by a Chinese investor in December 2016, the key focus in 2017 was on the repositioning of the AIXTRON Group's technology portfolio. The portfolio was focused on product lines that are profitable or that promise to generate a significant return on investment (ROI) in the foreseeable future. At the same time, AIXTRON pressed ahead with its development and sales activities for the Optoelectronics, Power Electronics and Carbon Nanomaterials markets.

Equipment revenues in 2017 were EUR 188.0 million. Of this total, EUR 47.8 million (25%) were related to MOCVD equipment to manufacture optoelectronic devices. Revenues with MOCVD equipment to manufacture power management devices amounted to EUR 20.4 million (11%). Both these markets are expected to grow in future due to the increasing use of lasers for optical data transmission, the increasing penetration of laser-based 3D sensors in consumer electronics, and modern power electronics modules based on materials such as silicon carbide or gallium nitride.

Revenues generated with LED-related MOCVD equipment in 2017 totaled EUR 79.1 million (42% of equipment revenues). This figure includes revenues of EUR 25.0 million from the sale of AIX R6 systems out of inventory. Given the focus on specialty LED applications, this business field is expected to see a reduction in revenues accompanied by higher profitability.

The product line for memory chip production sold to Eugene Technology generated revenues of EUR 38.8 million in 2017.

In addition to above mentioned activities, Management will continue to focus on costs, margin contributions as well as the allocation of funds and will continuously review the performance and prospects of the Companies' product portfolio to account for changes in conditions, such as the timeframes for launching new technologies onto the market or customers' product requirements.

The business development was considered as satisfactory, the business of optoelectronics developed increasingly positive and has the potential to generate further growth in the coming years.

The Company continues to have a strong balance sheet and a strong liquidity without any bank borrowings.

The order, revenues, earnings and free cash flow guidance for fiscal year 2017, which was published in the Annual Report 2016 and substantiated during the year, was successfully achieved.

3. Report on Expected Developments, Opportunities and Risks

3.1. Expected Developments

3.1.1. Future Market Environment and Opportunities

The IMF's January 2018 report forecasts global economic growth of 3.9% in 2018 and 3.9% in 2019, assuming continued favorable financing conditions around the world, with the effects of the US tax reform and increasing growth momentum in key emerging and developing countries playing a major role. At this point in time, AIXTRON does not anticipate any significant impact from the general global economic environment, although the risk of setbacks for the global economy cannot be ruled out.

Gartner Dataquest estimated (Forecast: Semiconductor Manufacturing Equipment, Worldwide, 4Q17 Update, December 2017) that semiconductor capital spending in 2017 increased to USD 92 billion. In the same report, Gartner forecasts slight reduction in semiconductor capital spending to USD 91 billion in 2018 and then declining to normalized USD 76 billion in 2019 (Forecast: Semiconductor Manufacturing Equipment, Worldwide, 4Q17 Update).

In Wafer Fab equipment, the segment where AIXTRON competes, Gartner expects an increase in market size to USD 49 billion in 2017 after which Gartner expects a decline to USD 48 billion in 2018 and to 39 billion in 2019.

According to a report published by LEDinside in August 2017, the market for LEDs is expected to grow from USD 17.1 billion in 2017 to USD 19.7 billion in 2021. The steadily declining market share of GaN-based display applications is more than offset by the gradual introduction of automotive, fine pitch LED and microLED display applications. This leads to the need for capacity expansion by LED manufacturers for GaAs-based LEDs. Forecasts for the potential market of production equipment is based exclusively on internal estimates.

According to a report from the Japanese Investment Bank DAIWA Capital Markets in June 2017, the introduction of 3D sensors in smartphones and the automotive industry in 2017 will lead to an estimated total market volume of USD 1 billion. In 2020, sales in this market are expected to exceed USD 10 billion. DAIWA also expects the focus of investments to be on deposition processes and 6" wafer capacity in order to meet the upcoming demand in the 3D sensor market.

In a 2015 study, the business intelligence firm OVUM estimated that the growth of the global optical communications market will remain stable, even in a volatile macroeconomic environment. Driven by investments in telecommunications, the market is expected to grow by an average of 10% per year until 2020, based on a total revenue of USD 7.8 billion in 2015.

According to Gartner, the total silicon power transistor market is expected to grow from USD 9 billion to 10 billion between 2013 and 2018 (Gartner, April 2014). According to a study from Yole Development, the market for SiC and GaN Power Electronics and RF devices, which can be produced using AIXTRON equipment, is estimated to generate a volume of USD 2 billion by 2021. Power electronic devices made of the materials SiC and GaN are gradually gaining market share in the overall power electronic device market. Estimates of an accessible market size for the respective production equipment are based on internal assessments and are therefore not meaningful at this point in time.

The markets APEVA addresses with its OVPD technologies for the deposition of organic materials offer substantial growth potential in the mid- to long-term, driven by increasing demand for OLED displays. Third party research houses, such as UBI Research or Display Supply Chain, expect the OLED industry’s revenue to more than triple in size to ~USD 50 billion in 2021, from USD 15 billion in 2016. APEVA is working hard on the qualification of its OVPD technology in production at an Asian display manufacturer. Achieving the qualification is a prerequisite for a possible use in mass production for OLED displays. AIXTRON´s PECVD technology for the fabrication of carbon nanostructures continues to make a positive contribution to revenue growth by focusing on R&D equipment, although sales volumes are relatively low and will remain low in the short term. There is a medium-term potential for growth in this area, if successfully qualified for industrial applications.

Estimates of an accessible OLED or Carbon Nanostructure equipment market size are based on internal assessments and are therefore not disclosed.

3.1.2. Expected Results of Operations and Financial Position

For 2018, the Executive Board expects growth in its core business, in particular from MOCVD systems for the production of lasers for applications in 3D sensor technology or optical data transmission. In the medium term, the adoption of power components based on the wide-band gap materials SiC and GaN (silicon carbide, gallium nitride) opens up further potential.

Based on the current corporate structure and estimated orders , Management expects both revenues and total orders in a range between EUR 230 million and EUR 260 million for 2018 at the budget rate of USD/EUR 1.20. This represent a growth between 20% and 35% based on the revenues of the continued business of EUR 191.6 million, excluding the sold ALD/CVD product line. Hence, AIXTRON expects to achieve a gross margin of 35% to 40% and an EBIT of 5% to 10% of revenues in 2018. Furthermore, Management expects to achieve a positive operational cash flow which will be lower compared to 2017. This is due to the positive effects from the sale of the ALD/CVD product line in the amount of EUR 51.0 million which were included in cash flow 2017. Cash flow in 2018 will include the settlement of liabilities towards third parties of the ALD/CVD business in the amount of EUR 11.7 million. These expectations for 2018 include the results of the AIXTRON subsidiary APEVA with all planned investments to further develop the OLED activities.

In addition to the above-mentioned activities, the Executive Board will continue to pay particular attention to cost development, margin contributions and the use of funds, as well as continuously reviewing the performance and future prospects of the product portfolio.

As in previous years, Management believes that the Company will not require external bank financing in the financial year 2018 and that the company will also be able to maintain its solid equity base in the foreseeable future.

3.1.3. Overall Statement on the Future Development

AIXTRON´s equipment enables the development and manufacture of key components for optical data communication (cloud computing, internet of things) next generation fast mobile networks (5G data communication), next generation displays (OLED, microLED), highly efficient energy conversion and electro-mobility, as well as for 3D-sensing (autonomous driving, facial recognition in smartphones).

Due to AIXTRON´s proven ability to develop and market innovative enabling deposition equipment for a variety of markets, Management continues to believe in the positive outlook for AIXTRON in its targeted markets.

As of December 31, 2017, AIXTRON had no binding agreements for participation financing, company acquisition or transfers of parts of the Company.

3.2. Risk Report

3.2.1. Risk Management System

AIXTRON´s risk management system is centrally managed and integrates all of AIXTRON´s major organizational units into the process. The Board Member of AIXTRON SE in charge of compliance is responsible for establishing and maintaining an effective risk management system and informs the Supervisory Board at regular intervals or, if necessary, ad hoc.

The primary objectives of the system are to support the achievement of strategic business objectives and to identify potential risks at an early stage, which could negatively impact the achievement of these. The risk management system supports the Executive Board in the systematic and rational management of identified risks by defining and prioritizing risk mitigating measures.

The periodic, quarterly risk inventory is initiated and monitored by the central risk manager. All risk owners from the operating divisions are questioned about current developments of already identified risks and measures to mitigate these. The results are compiled at a central level and discussed in a risk committee prior to informing the Supervisory Board.

AIXTRON uses a risk management software to support the process. All risk owners have access to the system. This ensures that changes in the risk situation that arise abruptly or newly identified risks are reported and integrated into the risk portfolio by the risk owners from the operating divisions.

The risk management system was adjusted to reflect the reorganization that the company undergo in the past fiscal year. The reoccurring risk assessments of APEVA's risks are now carried out in a process that is separate from AIXTRON´s risk assessment. That also includes reporting. The objectives, strategies and basic management processes of the risk management system remain unaltered.

3.2.2. Internal Control System ICS

The Executive Board is responsible for setting up and maintaining an appropriate internal control system and assessing its ongoing effectiveness in order to manage operational risks and to ensure adequate protection against significant misstatements and losses. Management shall ensure that the system of internal processes and controls is appropriate for the company in matters of its size and business, and that the appropriate processes and controls are in place to effectively manage and minimize the strategic, operational, financial and other risks which the company is exposed to. These also include the centrally monitored compliance for company-wide accounting guidelines and assessment principles within the context of financial reporting.

All subsidiaries which are included in the consolidated financial statements use the same, central SAP system and prepare monthly statements which are being centrally consolidated. Under usage of the direct system access at headquarters, a detailed analysis of target/actuals deviations in particular of quarterly reports is performed. In regular quarterly meetings with the responsible document owners, all substantial facts are being reviewed for compliance with IFRS. AIXTRON has a multistage control system for processes and transactions relevant for accounting which are being reviewed regularly on compliance by the internal audit department.

In addition, the group has ongoing processes in place to identify, evaluate and manage operational risks.

3.2.3. Single Risk Factors

The following risks could potentially have a substantially adverse impact on the revenue, the financial position, the net assets, the company's liquidity and the stock market price of AIXTRON´s shares, and on the actual outcome of matters which the forward-looking statements contained in this annual report, refer to. The risks described below are not the only ones the company faces. There may be additional risks that AIXTRON is currently unaware of, as well as general corporate risks such as political risks, the risk of force majeure and other unforeseeable events. There may also be risks that AIXTRON now believes are immaterial at present, but which may ultimately also have a significantly adverse effect on the company. Further information on the forward-looking statements may be reviewed in the section "Forward-Looking Statements".

At AIXTRON, all single risk are assessed and classified applying the same method. Risk likelihood is measured in one of four categories, as well as the potential damage should the risk occur. The extent of the damage relates to the impact on the AIXTRON group's operative result (EBIT).

Within the risk management system of AIXTRON, risks are detected and reported in the following categories:

- Currency risk and other financial risks
- Market- and competition-related risks
- Technological risks
- Sourcing and production risks
- Information Technology (IT) and -Security (IS) risks
- Staff-related risks
- Legal risks
- Risks relating to patents and intellectual property

3.2.4. Currency risk and other financial risks

AIXTRON generates a significant share of its revenues in foreign currencies. Fluctuations between the value of the euro and other major currencies may affect AIXTRON´s business as well as those of AIXTRON´s customers and suppliers.

The company counters balance sheet currency risks by means of a centralized management of foreign currencies. In 2017, no forward exchange transactions or other currency hedging transactions were carried out. Hence there were no exchange rate hedging contracts as of December 31st, 2017. However, Management reserves the right to hedge exchange rate risks in the future should this be appropriate.

Regardless of exchange rate developments, AIXTRON is exposed to the risk of customer default losses AIXTRON counters this risk with consistently securing payments, in particular through advance payments and letters of credit. These instruments are described in further detail in Note 17 "Trade receivables and other current assets" attached to the 2017 financial statements.

The company has sufficient cash and cash resources. The sale of the ALD/CVD product line in the past fiscal year further significantly improved the company's liquidity. In order to avoid the risk of a loss of liquidity, AIXTRON reviews the creditworthiness of its banks and, if appropriate, will make a change in the selection of these partners.

Apart from short-term trade payables from supplier orders and services as well as routine building lease payments, AIXTRON has no other financial obligations, in particular no liabilities linked to banks.

AIXTRON´s ongoing financial resource requirements are generally to be provided by cash flows from business activities.

AIXTRON´s worldwide operations require the taxation of operating income in different jurisdictions and at different tax rates. AIXTRON is exposed to the general risk of changes in the respective jurisdictions. Therefore, AIXTRON monitors developments in this area by close cooperation with external specialists, in order to be able to introduce appropriate measures to minimize risks. In addition, there is a risk that the tax models chosen by AIXTRON are examined by the authorities and may not be fully accepted, resulting in a negative impact on the results of operations.

3.2.5. Company related risks, market- and competition-related risks

Market- and competition-related risks
AIXTRON´s target the global markets, with a regional focus on Asia. As a result, AIXTRON is exposed to global economic cycles and geopolitical risks that could adversely affect the company's business. Such risks cannot be influenced by the company.

The markets addressed by the company can be cyclical and therefore extremely volatile. The timing, duration and severity of these industry cycles are difficult to predict and to be influenced by the company.
In order to spread its market-related risks, AIXTRON thus diversifies and offers products in different markets.

The target markets are in different market phases. The market for light-emitting diodes is in the mature phase, whereas the markets for sensors or high-power lasers are in the growth phase.

In each of the markets, AIXTRON faces competition. There is always the possibility that new competitors enter the market or that established competitors may apply strategies or introduce products to the market that adversely affect AIXTRON´s market expectations.

The company continuously monitors and assesses market developments. In order to reduce the risk of dependence on individual markets and their fluctuations, the company has implemented a management system to ensure that market developments are recognized at an early stage and used optimally.

The sale of the ALD/CVD product line in the past fiscal year trims AIXTRON´s product portfolio. On the one hand, this reduces the number of addressed markets for AIXTRON. Nevertheless, this transaction improves the company's cost structure, and it allows a focus on the markets with the highest potential for AIXTRON.

Technological risks
The technologies AIXTRON offers, enable new and revolutionary application possibilities. This often means lengthy sales and qualification cycles for the company's products, since demanding technical or other customer specifications

(in part for the first time) have to be met before a business transaction can be concluded.

The business transferred to APEVA during the year is for the development and production of systems to deposit organic semiconductor materials, which is an innovative technology. The business objective of APEVA is the development, qualification and production of the technology needed for the manufacture of OLED displays at the customer's site. To do so, APEVA cooperates with a large Asian OLED display manufacturer. Should it become apparent that the production qualification is not achievable with the parameters demanded by the customer, this poses an existential threat for APEVA. As of today, it is possible that in such a case APEVA's business operations could be terminated. This could place a burden on AIXTRON´s balance sheet in the form of restructuring and settlement costs. At the present time, such expenses expressly do not represent a risk for the continued existence of AIXTRON.

At the time of the annual report preparation, both the management of APEVA as well as of AIXTRON SE are optimistic about achieving the qualification. In addition to the close cooperation with the customer for product development and qualification, among other things, the inclusion of a partner for APEVA's business to reduce AIXTRON´s financial and operative risks is a crucial factor.

Due to the fact that AIXTRON technologies and products are often subject to long development and qualification cycles, AIXTRON may develop technologies and products for markets or application areas in which the general conditions of the targeted markets or the strategic planning of potential customers change fundamentally during the development cycle. As a result, planned and forecasted sales may be subject to the risk of a postponement or discontinuation, meaning that development activities can be refinanced later than planned or not at all.

Focused research and development activities as carried out in the past fiscal year and the intensive involvement of external technology partners are regarded as suitable measures by the management to mitigate this risk.

Sourcing and production risks

The semiconductor market has been in a growth phase for an extensive period of time. This impacts both AIXTRON as well as the supply chains in form of high capacity utilization rates. There are risks for AIXTRON regarding to longer delivery lead times of components and higher procurement prices. If higher procurement prices cannot be passed on to the customers, the product margins will be impacted negatively or deliveries of ordered systems may be delayed. A proactive forecasting and planning of demands, the conclusion of framework supply agreements, the qualification of alternative suppliers for critical components, as well as a continuous monitoring and controlling of the supply chains, the risk is addressed by the company.

By having streamlined the product portfolio and focusing on key markets, as well as the continuous identification and qualification of alternative suppliers, the risk of dependency on single sources has been further reduced in the past fiscal year.

Remaining risks are hedged through an operations disruption insurance including contingency damage coverage for the supply chain.

Information Technology (IT) and -Security (IS) risks

Information is a valuable asset for AIXTRON and needs to be adequately protected. Due to increasing digitization and network connections, a large share of information is generated, processed and stored in IT systems. The security of information and IT systems is co-dependent. AIXTRON defines IT and IS risks as a violation of the integrity, confidentiality or availability of a valuable asset for the company.

The company has implemented technical and organizational measures to address the risk of unauthorized access, unwanted modifications, or deletion of information or IT-systems. The measures applied to mitigate IT and IS risks are reviewed regularly and adjusted where needed.

Due to the high complexity of today's IT environment and increasingly intense threats, AIXTRON cannot fully rule out that information assets may be compromised nor a subsequent unauthorized disclosure or manipulation of information assets.

In part, AIXTRON uses external service providers for the provision of IT services and systems. The reputation and security aspects of the service providers play a key role in their selection.

Staff-related risks

In order to compete AIXTRON must recruit, retain and motivate executives and other key employees, including those in company management, R&D, technology, sales, marketing, and service positions. Qualified executives, researchers, engineers, technicians, and sales representatives are critical for AIXTRON´s business. The competition for experienced staff can be intense. There is a risk that AIXTRON cannot fill vacancies adequately or not quickly enough. In order to recruit, retain and motivate qualified employees, AIXTRON relies heavily on paying market-competitive salaries and offering additional incentives and bonus payments.

Legal risks as well as risks relating to patents and intellectual property

AIXTRON may be exposed to legal risk in the context of asserting or defending the claims by third parties. In those cases, costs may arise for external legal support as well as for court proceedings or settlements. The outcome of ongoing, outstanding and/or threatened legal proceedings cannot be predicted with any guarantees. Court rulings, other decisions by official authorities or settlements can cause substantial costs. These costs may be non-refundable, depending on the outcome of the proceedings or the applicable legal order, and thus develop into a burden for the company. At the time of reporting, one legal case is pending for a subsidiary. Management is not aware of any further ongoing or imminent legal or settlement proceedings.

As part of product and technology development, AIXTRON has established measures to identify and protect newly developed intellectual properties of the company and to examine whether any protected property is used by the company. At the same time, AIXTRON can neither rule out the possibility of an infringement of the copyright of a third party nor the possibility that third parties may assert claims for the payment of damages for an alleged violation of the intellectual property of third parties.

At the time of reporting, Management does not expect a significant threat to be posed by legal or patent disputes.

3.2.6. Overall statement on the risk situation

Compared to 2016, the overall risk situation of AIXTRON SE and its subsidiaries has improved. The risk portfolio has been streamlined by the sale of AIXTRON´s ALD/CVD product line as well as the focusing of the research and development activities and the inclusion of external cooperation partners. This also improves the exploitation of opportunities and active avoidance of risks in the markets targeted by AIXTRON.

The Executive Board of AIXTRON SE is not aware of any risk to the continued existence of the Company.

The auditor reviewed the risk management system and confirmed its effectiveness.

3.3. Opportunities report

AIXTRON´s core competence is the development of cutting-edge technology for the precise deposition of complex semi-conductor structures and other functional materials. The company has achieved a globally-leading competitive position in this area. In order to defend and expand this position, AIXTRON invests in appropriate research and development projects, such as for MOCVD systems to produce semi-conductors for use in lasers, high-power electronics or LEDs. Management will maintain the focus on this core competence and develop both existing markets as well as new markets.

Important market segments in optoelectronics include entertainment electronics, data communications and display technology. The trend towards optical data transmission also across shorter distances, e.g. in data centers, as well as the application of 3D sensor systems in mobile end devices such as especially smartphones, is generating an increasing demand for edge and surface emitting laser (VCSEL) systems. AIXTRON anticipates a further increase in demand over the coming years in this area. In addition, AIXTRON notes a stable demand for systems for the production of red-orange-yellow, infrared and UV LEDs. An additional growth segment in the area of optoelectronic applications is LED-based, direct-emitting displays. This technology has potential in diverse end device applications in consumer electronics.

Important market segments for power electronics based on wide-band gap materials such as gallium nitride (GaN) and silicon carbide (SiC) are the automotive, energy and consumer electronics industries. The development of energy-efficient solutions for AC-DC converters, inverters and high-frequency power amplifiers are increasingly gaining in importance. The trend towards electrification of vehicles using SiC-based components plays an important role in this regard. GaN-based components, e.g. for fast or wireless charging of mobile devices, are in development. In this field, AIXTRON expects demand for production systems to increase as the market penetration of these applications increasingly gains momentum.

In addition, AIXTRON will further advance its PECVD technology, which enables the production of advanced carbon nanostructures such as carbon nanotubes, nanowires and graphene in research and development. Application possibilities for such materials include energy storage, display technologies, semiconductor technologies and composites. The number of R&D systems installed by AIXTRON and the close cooperation with customers allows the company to align its development plans with the market requirements for this emerging technology. Building on the leading position achieved in recent years, AIXTRON expects the market opportunities for production systems to increase further.

APEVA continues to push forward the customer qualification of OVPD technology for the deposition of organic materials for displays. The exclusively licensed OVPD technology enables highly efficient deposition of organic materials, especially on large-area substrates, and offers a number of advantages over currently used technologies, especially in terms of material consumption and yield. The qualification activities in this area are closely linked with the growth plans of the respective customers.

AIXTRON expects the following market trends and **opportunities** of the relevant end-user markets to have a positive impact on the further course of business:

Short- to mid-term

- Increasing application of compound semi-conductor-based lasers for the 3D sensor systems in mobile end device as well as sensors for infrastructure applications.
- Further increasing use of LEDs and special LEDs (esp. red-orange-yellow, UV or IR) with displays and others applications
- Further increasing demand for lasers for ultra-fast optical data transmission of large volumes, such as for video streaming and Internet-of-Things (IOT) applications.
- Increasing use of wide-band gap GaN- or SiC-based components for energy-efficient communication and performance control in cars, entertainment electronics and mobile devices.
- Progress in the further development of large-area OLED components that require an efficient deposition technology.

Mid- to long-term

- Development of new applications based on materials with large band spacing such as high-frequency chips or system-on-chip architectures with integrated power management
- Increased use of compound semi-conductor-based sensors for autonomous driving
- Increased development activities for specialized application of solar cells made of compound semi-conductors
- Development of new materials with the help of carbon nanostructures (carbon nanotubes, -wires and graphene)
- Development of alternative LED applications, such as visual-light communication technology or micro LED displays.

4. Information concerning section 315 (4) of the German Commercial Code (HGB) on takeovers

The Company's stated share capital as of December 31, 2017 amounted to EUR 112,924,730 (December 31, 2016: EUR 112,804,105; December 31, 2015: EUR 112,720,355) divided into 112,924,730 registered shares with a proportional interest in the share capital of EUR 1.00 per no-par value registered share. Each no-par value share represents the proportionate share in AIXTRON´s stated share capital and carries one vote at the Company's annual shareholders' meeting. All registered shares are fully paid in.

The Company has issued a share certificate representing multiples of shares (global share); shareholders do not have the right to the issue of a share certificate representing their share(s). There are no voting or transfer restrictions on AIXTRON´s registered shares that are related to the Company's Articles of Association. There are no classes of securities endowed with special control rights, nor are there any provisions for control of voting rights, if employees participate in the share capital without directly exercising their voting rights.

Additional funding needs could be covered by the following additional capital as authorized by the annual shareholders' meeting:

Funding Sources	**2017**	**Approved**	**Expiry**	**2016**	**2015**	**2017-2016**
(EUR or number of shares)	31-Dec	**since**	**Date**	**31-Dec**	**31-Dec**	
Issued shares	112,924,730	--	--	112,804,105	112,720,355	120,625
Authorized Capital 2017 - Capital increase for cash with existing shareholders' preemptive rights	10,518,147	09.05.2017	08.05.2022	--	--	10,518,147
Authorized Capital 2014 - Capital increase for cash or contribution in kind with or without existing shareholders' preemptive rights	45,883,905	14.05.2014	13.05.2019	45,883,905	45,883,905	--
Authorized Capital 2012 - Capital increase for cash with existing shareholders' preemptive rights	cancelled	16.05.2012	15.05.2017	10,422,817	10,422,817	-10,422,817
Conditional Capital I 2012 - Authorization to potentially issue bonds with warrants and/or convertible bonds in future	expired	16.05.2012	15.05.2017	40,715,810	40,715,810	--
Conditional Capital II 2012 - Stock Options Program 2012	expired	16.05.2012	15.05.2017	4,208,726	4,208,726	--
Conditional Capital II 2007 - Stock Options Program 2007	2,689,113	22.05.2007	21.05.2012	2,809,738	2,872,638	-120,625
Conditional Capital 2 - Stock Options Program 1999	expired	26.05.1999	31.12.2017	1,926,005	1,926,005	--

In accordance with section 71 (1) no. 8 German Corporations Act, AktG, the Company is authorized until May 13, 2019, with the approval of the Supervisory Board, to purchase its own shares representing an amount of up to EUR 11,262,429 of the share capital. This authorization may not be used by the Company for the purpose of trading in own shares. The authorization may be exercised in full, or in part, once, or on several occasions by the Company. The shares may be purchased (1) on the stock market or (2) by way of a public offer to all shareholders made by the Company or (3) by way of a public invitation to submit offers for sale.

Any amendment to the Articles of Association related to capital measures requires a 75% majority of the share capital represented at the Annual General Meeting (Article 59 SE Regulation, SE-VO; §179 German Corporations Act, AktG). Other amendments to the Articles of Association require a majority of two thirds of the votes cast or, if at least one half of the share capital is represented, a simple majority of the votes cast.

As of December 31, 2017, about 24% of AIXTRON shares were held by private individuals, with around 76% held by institutional investors. The largest institutional shareholder was Baillie Gifford Overseas (Edinburgh, GB) with around 5% holdings in AIXTRON stock. 99% of the shares were considered as free float according to Deutsche Börse's definition.

The Supervisory Board appoints and removes from office the members of the Executive Board, who may serve for a maximum term of six years before being reappointed.

If a change of control situation exists, the individual members of the Executive Board are entitled to terminate their service relationship with AIXTRON with a notice period of three months to the end of the month and to resign from their post on the termination date. Upon termination of the services as a result of a change of control, such member of the Executive Board will receive a severance pay in an amount equal to the fixed and variable compensation expected to be owed by the Company for the remaining term of the service contract, however, not exceeding an amount equal to twice the annual compensation. A change of control situation exists if a third party or a group of third parties who contractually combine their shares in order to act subsequently as a third party, directly or indirectly hold more than 50% of the Company's authorized capital. Apart from the above mentioned, there are no further changes of control provisions.

5. Remuneration Report

The remuneration report summarizes the principles of the remuneration system for the members of the Executive Board and Supervisory Board of AIXTRON SE and explains the structure and amount of the remuneration paid. The remuneration of each member of the Executive Board and Supervisory Board for fiscal year 2017 is presented on an individual basis. The remuneration report is based on the recommendations of the German Corporate Governance Code and includes the disclosures required by the German Commercial Code (Handelsgesetzbuch - HGB) and the International Financial Reporting Standards (IFRS). The remuneration report is part of the Group Management Report.

5.1. Principles of Management Compensation

5.1.1. Executive Board

The Supervisory Board as a whole is responsible for establishing the structure of the remuneration system and for the total remuneration for individual members of the Executive Board. It regularly discusses and reviews remuneration for appropriateness to ensure that Management is not taking unreasonable risks.

The remuneration level of the Executive Board members of AIXTRON SE is aligned not only with the commercial and financial situation and future prospects of the Company and the level and structure of Executive Board remuneration at comparable companies but also with the compensation structure in place in other areas of the Company. In addition, the responsibilities, experience and contribution of each individual Executive Board member, and the desire to retain them, are taken into account when calculating the remuneration.

The current remuneration system was approved by AIXTRON´s shareholders at the Annual General Meeting held on May 23, 2013.

Executive Board remuneration currently consists of three components: fixed remuneration (including benefits in kind and payments into a private pension insurance), a variable bonus, and may include stock-based remuneration.

5.1.1.1. Fixed remuneration

The Executive Board employment contracts stipulate an annual income for the fixed remuneration component. The fixed remuneration component is non-performance-related and is paid out on a monthly basis (13 times a year) as a salary. Additional payments in kind are made, mainly consisting of company car usage and payments for private pension insurance.

5.1.1.2. Variable bonus

The limited variable bonus scheme for the collective Executive Board (profit-sharing) is based on consolidated net income for the year and is paid from an “accrued internal bonus pool”, defined as up to 10% of the modified consolidated net income for the year, but not to exceed EUR 6.5 million in total. The modified consolidated net income for the year is obtained from the Company’s Consolidated Financial Statements (IFRS) certified by the auditor, which may be reduced by a consolidated loss carry forward figure and those amounts that are to be allocated to retained earnings in the Annual Financial Statements of AIXTRON by law or in accordance with the Articles of Association. The consolidated loss carry forward is obtained from consolidated net losses from previous years, less consolidated net income from subsequent fiscal years.

The variable bonus – paid out of the above mentioned “accrued internal bonus pool” – will be paid half through a monetary element and half in shares. That part of the variable bonus payable in shares will be converted into whole numbers of shares of the Company and will be deferred until the third bank working day following the ordinary General Meeting in the third fiscal year after having been granted to the Board members. The number of the shares to be granted for the part of the variable bonus payable in shares will be determined in accordance with the closing price of the share of the Company on the third bank working day following the ordinary General Meeting, which is presented with the annual financial statements of the Company and the consolidated financial statements for the fiscal year for which the bonus is granted. The shares will be delivered from treasury shares. Thus, during the multi-year waiting period, the Executive Board members will take part in both positive and negative developments of the Company's share price so that the variable compensation structure is clearly oriented toward a sustainable business development.

5.1.1.3. Stock-based remuneration

In addition, as a variable component acting as a long-term incentive with an element of risk, the members of the Executive Board may receive a share-based payment in the form of options that are granted under AIXTRON´s stock option plans or AIXTRON shares. The stock option plans, including the exercise thresholds, are adopted at the Companies’ General Meeting. The number of options granted to the Executive Board is stipulated by the Supervisory Board. Further details on the outstanding stock options of the Executive Board as well as comments on the respective stock option plans are set out further in this report under “Executive Board remuneration” of the chapter “Individual remuneration structure”.

5.1.1.4 Commitments in connection with the termination of Executive Board membership

If the tenure of any Executive Board member ends prematurely as result of a revocation of the appointment, such member of the Executive Board will receive a severance payment in an amount equal to the fixed and variable compensation expected to be owed by the Company for the remaining term of the employment contract, however, not exceeding an amount equal to twice the annual compensation (severance cap). Any payments beyond this severance payment shall be excluded.

If the tenure of any Executive Board member ends prematurely because the employment contract is terminated by mutual agreement, the total amount of any payments agreed to be paid by the Company to the Executive Board member as part of such an agreement may not exceed the amount of the severance payment which the Executive Board member would receive in the event of a revocation of the appointment with due regard to the severance cap.

If the tenure of any Executive Board member ends prematurely because the employment contract is terminated after a change of control, such member of the Executive Board will receive a severance payment in an amount equal to the fixed and variable compensation expected to be owed by the Company for the remaining term of the employment contract, however, not exceeding the severance cap, i.e. an amount equal to twice the annual compensation. Any payments beyond this severance payment shall be excluded. A change of control situation exists if a third party or a group of third parties who contractually combine their shares in order to act subsequently as a third party, directly or indirectly holds more than 50% of the Company's registered share capital.

5.1.1.5. Other

The current Executive Board members have no individual Company pension benefits, which would result in pension provisions being required to be made by AIXTRON, and receive no loans from the Company.

5.1.2. Supervisory Board

Remuneration of the Supervisory Board is regulated in Article 17 of AIXTRON´s Articles of Association. Accordingly, the annual fixed compensation for individual members of the Supervisory Board is EUR 25,000. The Chairman's compensation is three times this amount and the Deputy Chairman's one and a half times the amount received by a regular member of the Supervisory Board.

The members of the Supervisory Board also receive, in aggregate, a limited variable compensation of 1% of the Company's net income, less an amount corresponding to 4% of the paid-in contributions to the share capital. The Chairman of the Supervisory Board receives 6/17, the Deputy Chairman 3/17, and each other member of the Supervisory Board 2/17 of the variable remuneration. The variable compensation is limited to fourfold the annual fixed compensation of each Supervisory Board member. In addition, committee members receive an attendance fee of EUR 2,000 for attending a committee meeting, with the Chairman of the committee receiving triple this amount. The total annual attendance fee per Supervisory Board member is limited to one-and-a-half times that individual's fixed remuneration.

The Supervisory Board members receive no loans from the Company.

5.1.3. D&O insurance

The Company has a D&O insurance contract in place, covering the activities of members of the Executive Board and members of the Supervisory Board. Pursuant to the amended § 93, Section 2 AktG following the Act on the Appropriateness of Executive Board remuneration (VorstAG), as well as to the amended recommendation in chapter 3.8. German Corporate Governance Code, the deductible for members of the Executive Board and members of the Supervisory Board is equal to a minimum of 10% of the respective, potential loss incurred. The deductible cannot exceed a factor of 1.5 of the respective annual fixed remuneration.

5.2. Individual remuneration structure

5.2.1. Executive Board remuneration

Martin Goetzeler left the Company effective February 28, 2017. On June 8, 2017, Dr. Felix Grawert was appointed as a new member to the Executive Board and assumed his position on August 14, 2017. Dr. Felix Grawert and Dr. Bernd Schulte jointly lead the Company. Between March 1st, 2017 and August 31st, 2017, AIXTRON Supervisory Board Chairman Kim Schindelhauer was interim CEO and CFO of the Company.

The total Executive Board remuneration in fiscal year 2017 amounted to EUR 1,355,181 (2016: EUR 1,055,631; 2015: EUR 1,040,631). The success-independent, fixed remuneration of the Executive Board (including benefits in kind and the allowance for pension provision) in 2017 was at EUR 1,256,431 (2016: EUR 1,055,631; 2015: EUR 1,040,631).

Dr. Felix Grawert received his contractually agreed bonus amounting to EUR 80,000 pro rata temporis for the 2017 financial year, half paid in the form of AIXTRON shares and half paid in cash. The part of the management bonus relating to the share proportion was converted to a whole number of AIXTRON shares as of December 15, 2017 and will be transferred to the Executive Board member by the third bank working day, following the Annual General Meeting within the third fiscal year after granting (2017: 3,188 shares). In addition, Dr. Grawert receives Company shares in the value of EUR 50,000 per financial year. For the pro rata 2017 financial year this value amounts to EUR 18,750. The number of the shares will be determined in accordance with the closing price of the share of the Company on the third bank working day following the Annual General Meeting, which is presented with the Annual Financial Statements of the Company and the Consolidated Financial Statements for the fiscal year 2017. No variable bonus was paid for fiscal years 2016 and 2015. In the fiscal year 2017 a total of 24,594 AIXTRON shares were transferred to Mr. Goetzeler as a contractually guaranteed bonus relating to the fiscal year 2013. During the past fiscal year, no stock options were granted to the Members of the Executive Board (2016: 0; 2015: 0).

5.3. Information according to Nr 4.2.5 German Corporate Governance Code (DCGK)

5.3.1. Value of benefits granted displayed according to DCGK

Value of benefits granted displayed according to DCGK

The following table according to DCGK shows the value of benefits granted to the individual members of the Executive Board in fiscal year 2017 as well as the minimum and maximum values that can be achieved.

For the one-year variable compensation, in line with the requirement of the DCGK, the target value (i.e. the value in the event of 100% goal achievement) granted for the year under review is stated. The multi-year variable compensation granted in the year under review is broken down into different plans are stated.

Potential benefits granted	Dr. Felix Grawert President Member of the Executive Board since August 14, 2017				Dr. Bernd Schulte President Member of the Executive Board since March 7, 2002				Martin Goetzeler CEO / CFO Member of the Executive Board until February 28, 2017				Kim Schindelhauer CEO / CFO Member of the Executive Board from March 01 to August 31, 2017			
	2016	2017	2017 (min)	2017 (max)	2016	2017	2017 (min)	2017 (max)	2016	2017	2017 (min)	2017 (max)	2016	2017	2017 (min)	2017 (max)
Fixed compensation	0	126,258	126,258	126,258	430,000	430,000	430,000	430,000	600,000	370,000	370,000	370,000	0	300,000	300,000	300,000
Fringe benefits	0	5,192	5,192	5,192	12,527	12,797	12,797	12,797	13,104	2,184	2,184	2,184	0	10,000	10,000	10,000
Total	**0**	**131,450**	**131,450**	**131,450**	**442,527**	**442,797**	**442,797**	**442,797**	**613,104**	**372,184**	**372,184**	**372,184**	**0**	**310,000**	**310,000**	**310,000**
One-year variable compensation	0	98,750	98,750	956,250	0	0	0	2,500,000	0	0	0	666,667	0	0	0	0
Multi-year variable compensation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deferral from one-year variable compensation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**98,750**	**98,750**	**956,250**	**0**	**0**	**0**	**2,500,000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Service cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**0**	**230,200**	**230,200**	**1,087,700**	**442,527**	**442,797**	**442,797**	**2,942,797**	**613,104**	**372,184**	**372,184**	**1,038,851**	**0**	**310,000**	**310,000**	**310,000**

5.3.2. Allocation displayed according to DCGK

As the benefits granted to the members of the Executive Board in a fiscal year does not always result in a corresponding payment in the respective fiscal year, the following table shows severally - in line the relevant recommendation of the DCGK - the value of the actual allocation (amount disbursed) in fiscal year 2017.

According to the recommendations of the DCGK, for the fixed compensation and the one-year variable compensation the allocation (amount disbursed) for the respective fiscal year is entered. For subscription rights and other share-based payments, the time of allocation and the allocation amount is deemed to be the relevant time and value under German tax law.

Benefits realized	Dr. Felix Grawert President Member of the Executive Board since August 14, 2017		Dr. Bernd Schulte President Member of the Executive Board since March 7, 2002		Martin Goetzeler CEO / CFO Member of the Executive Board until February 28, 2017		Kim Schindelhauer CEO / CFO Member of the Executive Board from March 01 to August 31, 2017	
	2016	2017	2016	2017	2016	2017	2016	2017
Fixed compensation	0	126,258	430,000	430,000	600,000	370,000	0	300,000
Fringe benefits	0	5,192	12,527	12,797	13,104	2,184	0	10,000
Total	**0**	**131,450**	**442,527**	**442,797**	**613,104**	**372,184**	**0**	**310,000**
One-year variable compensation	0	40,000	0	0	0	0	0	0
Multi-year variable compensation	0	0	67,132	226,876	0	127,028	0	0
Deferral from one-year variable compensation	0	0	0	0	0	0	0	0
Stock option program 2007 (blackout period: 2 years)	0	0	67,132	226,876	0	0	0	0
Other	0	0	0	0	0	0	0	0
Total	**0**	**0**	**67,132**	**226,876**	**0**	**127,028**	**0**	**0**
Service cost	0	0	0	0	0	0	0	0
Total	**0**	**171,450**	**509,659**	**669,673**	**613,104**	**499,212**	**0**	**310,000**

As of December 31, 2017, the AIXTRON Executive Board held a total of 154,000 options for the purchase of 154,000 shares of the Company (December 31, 2016: 283,500; December 31, 2015: 395,500). The number of shares underlying the options is set out below. The actual profits from exercising the stock options may differ significantly from the figures shown in the table.

Executive Board Member	Allocation Date	Outstanding (Shares)	Exercisable (Shares)	Grant Date Option Value (EUR)	Exercise Price (EUR)	Maturity	Forfeited	Total Outstanding Shares
Dr. Felix Grawert		-	-	-	-		-	**0**
Martin Goetzeler	Oct 2014	0	0	189,000	13.14	Oct 2024	50,000	**0**
Dr. Bernd Schulte	Oct 2014	50,000	0	189,000	13.14	Oct 2024		
	Nov 2010	52,000	52,000	461,240	26.60	Nov 2020		
	Nov 2009	52,000	52,000	448,240	24.60	Nov 2019		
	May 2002	0	0	152,625	7.48	May 2017	27,500	**154,000**
Total		**154,000**	**104,000**				**77,500**	**154,000**

In accordance with IFRS 2, the “grant-date fair value of the options” is used as the basis for recognizing options under expenses on the Income Statement.

The expenses for share based compensation of each individual member of the Executive Board are as follows:

in EUR thousands	2017	2016	2015
Dr. Felix Grawert	59	0	0
Dr. Bernd Schulte	47	47	53
Kim Schindelhauer	0	0	0
Martin Goetzeler	-107	47	47

In 2017, options to acquire 77,500 AIXTRON shares expired (2016: 60,000; 2015: 2,640). The expenses for the unvested expired options have been reversed in accordance with IFRS 2.

In fiscal year 2017, current Executive Board members exercised 52,000 options (2016: 52,000; 2015: 0).

Executive Board Member	Year	Exercise Published	Weighted Share Price of Exercise Day	Underlying Shares	Total Underlying Shares
Dr. Bernd Schulte	**2017**	November 28, 2017	14.1233	52,000	**52,000**
Dr. Bernd Schulte	**2016**	September 15, 2016	4.17	52,000	**52,000**

The current Executive Board members have no individual company pension benefits which would result in pension provisions being required to be made by the company. Instead, the Executive Board annual pension allowance is paid by AIXTRON and included in the fixed remuneration, and is transferred by the Executive Board members into independent insurance contracts with a benevolent fund or similar plan. In the years 2016 and 2015 payments of EUR 80,000 per annum were made to Martin Goetzeler. In 2017 Martin Goetzeler received EUR 40,000. In the years 2017, 2016 and in 2015, payments of EUR 40,000 per year were made to Dr. Bernd Schulte. In 2017, Dr. Grawert received a pro rata allowance amounting to EUR 11,250 (EUR 30,000 per annum). Mr. Schindelhauer did not receive any pension allowance. This allowance is part of the total fixed annual salary of the Executive Board members.

5.3.3. Supervisory Board Remuneration

In fiscal year 2017, the remuneration of the Supervisory Board totaled EUR 333,250 (2016: EUR 448,750; 2015: EUR 302,500). The division between the individual members of the Supervisory Board for the years 2015 to 2017 is presented in the table below:

Supervisory Board Member	Year	Fixed	Variable	Attendance Fee	Total
		(EUR)	(EUR)	(EUR)	(EUR)
Kim Schindelhauer [1)2)3)4)5)6)]	**2017**	37,500	0	22,000	59,500
(Chairman of the Supervisory Board)	**2016**	75,000	0	100,000	175,000
	2015	75,000	0	18,000	93,000
Prof. Dr. Wolfgang Blättchen[1)4)9)10)]	**2017**	56,250	0	40,000	96,250
(Deputy Chairman of the Supervisory Board)	**2016**	37,500	0	72,250	109,750
(Chairman of the Audit Committee) (Independent Financial Expert)	**2015**	37,500	0	24,000	61,500
Dr. Andreas Biagosch [2)11)]	**2017**	25,000	0	6,000	31,000
	2016	25,000	0	8,000	33,000
	2015	25,000	0	8,000	33,000
Prof. Dr. Petra Denk [2)3)]	**2017**	25,000	0	32,000	57,000
(Chair of the Technology Committee)	**2016**	25,000	0	30,000	55,000
	2015	25,000	0	26,000	51,000
Dr. Martin Komischke[8)]	**2017**	25,000	0	2,000	27,000
	2016	25,000	0	0	25,000
	2015	25,000	0	0	25,000
Prof. Dr. Rüdiger von Rosen [1)3)8)10)]	**2017**	25,000	0	37,500	62,500
(Chairman of the Nomination Committee)	**2016**	25,000	0	26,000	51,000
	2015	25,000	0	14,000	39,000
Total	**2017**	**193,750**	**0**	**139,500**	**333,250**
	2016	**212,500**	**0**	**236,250**	**448,750**
	2015	**212,500**	**0**	**90,000**	**302,500**

[1)] Member of the Audit Committee from 1.1.-28.2. and 1.9.-31.12.2017
[2)] Member of the Technology Committee from 1.1.-28.2. and 1.9.-31.12.2017
[3)] Member of the Nomination Committee from 1.1.-28.2. and 1.9.-31.12.2017
[4)] Member of the Capital Markets Committee from 1.1.-28.2. and 1.9.-31.12.2017
[5)] Former AIXTRON Executive Board Member from 1.1.-28.2. and 1.9.-31.12.2017
[6)] delegated to the Executive Board from 1.3. to 31.8.2017
[7)] Chairman of the Supervisory Board from 1.3. to 31.8.2017
[8)] Member of the Audit Committee from 1.3. to 31.8.2017
[9)] Member of the Technology Committee from 1.3. to 31.8.2017
[10)] Member of the Nomination Committee from 1.3. to 31.8.2017
[11)] Member of the Capital Markets Committee from 1.3. to 31.8.2017

In accordance with the article of association of the Company, the annual attendance fee of Prof. Dr. von Rosen in fiscal year 2017 was capped at one-and-a-half times their fixed remuneration. As in previous years, there were no payments made to any Supervisory Board member for advisory services in fiscal year 2017.

6. Declaration on Corporate Governance according to § 315 para 5 of the German Commercial Code (HGB)

The Declaration on Corporate Governance including the Corporate Governance Report are available on the Company's homepage under www.aixtron.com/de/investoren/corporate-governance/.

7. Responsibility Statement

Responsibility Statement required by section 37y no. 1 of the Wertpapierhandelsgesetz (WpHG – German Securities Trading Act) in conjunction with sections 297(2) sentence 4 and 315(1) sentence 6 of the Handelsgesetzbuch (HGB – German Commercial Code) for the Consolidated Financial Statements:

“To the best of our knowledge, and in accordance with the applicable reporting principles, the Consolidated Financial Statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the Group Management Report includes a fair review of the development and performance of the business and the position of the Group, together with a description of the material opportunities and risks associated with the expected development of the Group.”

Herzogenrath, February 26, 2018

AIXTRON SE

Executive Board

Dr. Felix Grawert

Dr. Bernd Schulte