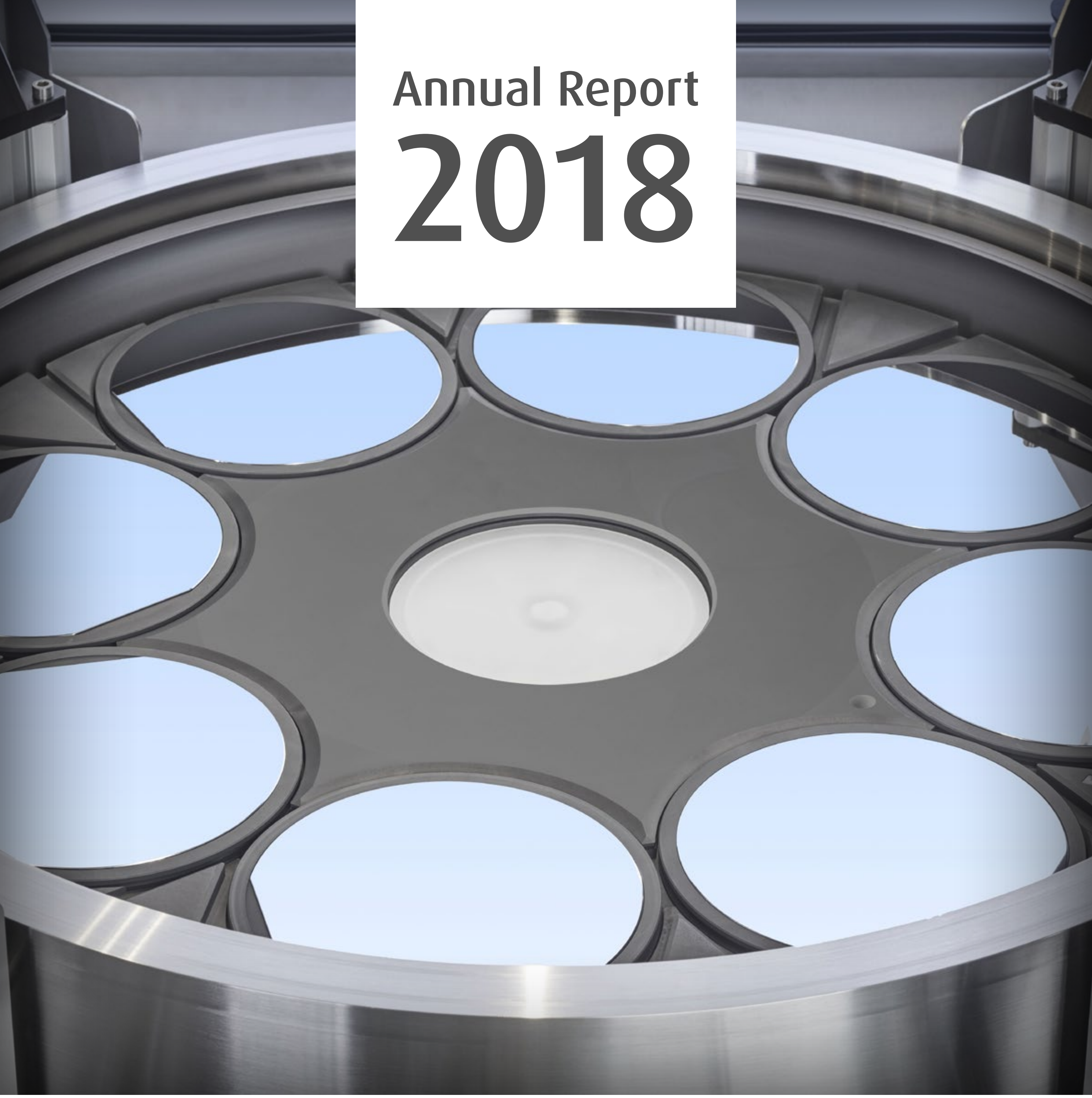
Annual Report 2018



We are shaping the future.
With innovation and precision.

AIXTRON

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AIXTRON GROUP

2018 at a Glance

302.5 m €
Order intake
previous year 263.8 m €

268.8 m €
Revenues
previous year 230.4 m €

44 %
Gross margin
previous year 32 %

41.5 m €
EBIT
previous year 4.9 m €

0.41 €
Earnings per share
previous year 0.06 €

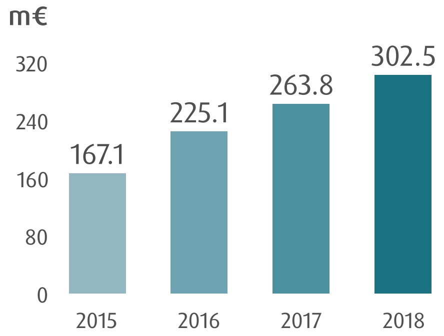
4.4 m €
Free cash flow
previous year 91.4 m €

52.2 m €
R&D expenditure
previous year 68.8 m €

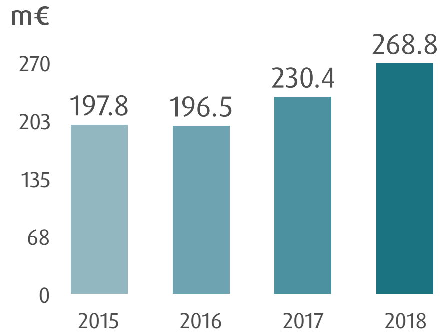
628
Employees at year-end
previous year 581

Key Figures

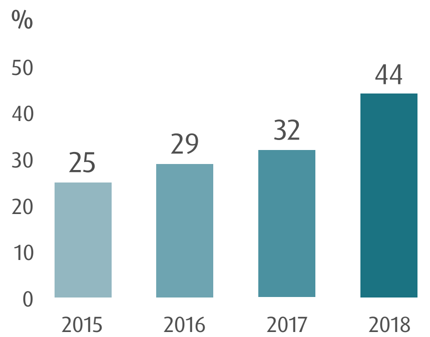
Order intake



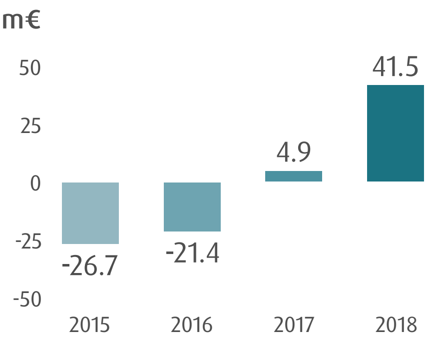
Revenues



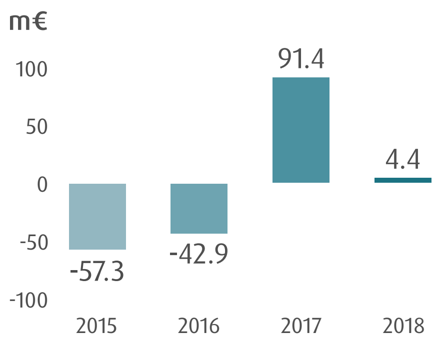
Gross margin



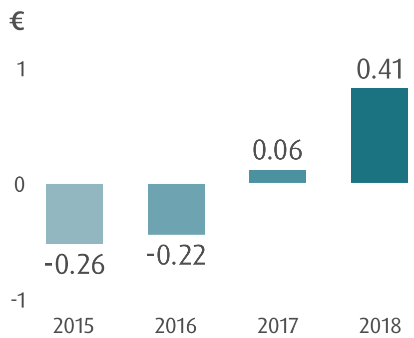
Operating result (EBIT)



Free cash flow



Earnings per share



Company Profile

AIXTRON SE is a leading provider of deposition equipment to the semiconductor industry. The Company was founded in 1983 and is headquartered in Herzogenrath (near Aachen), Germany, with subsidiaries and sales offices in Asia, United States and in Europe. AIXTRON´s technology solutions are used by a diverse range of customers worldwide to build advanced components for electronic and optoelectronic applications based on compound or organic semiconductor materials. Such components are used in a broad range of innovative applications, technologies and industries. These include Laser, LED and display technologies, SiC and GaN power management and conversion, communication, signaling and lighting as well as a range of other leading-edge applications.

Our registered trademarks: AIXACT®, AIXTRON®, APEVA®; Atomic Level SolutionS®, Close Coupled Showerhead®, CRIUS®, EXP®, EPISON®, Gas Foil Rotation®, Optacap™, OVPD®, Planetary Reactor®, PVPD®, STExS®, TriJet®

For further information on AIXTRON (FSE: AIXA, ISIN DE000A0WMPJ6) please visit our website at: www.aixtron.com.

Letter to Shareholders

Dear Shareholders,

2018 was a very successful year for AIXTRON! We have more than fulfilled our ambitious forecast for the year and with the Korean automation specialist IRUJA we have won a strong partner for our OLED subsidiary APEVA. We have thus completed the realignment we began in 2017. We have continued to grow organically and achieved an operating profit before taxes of around EUR 41 million on revenues of just under EUR 270 million. With an order intake of more than EUR 300 million, we have made a solid start to 2019.

Based on the positive development in the optoelectronics and power electronics markets, AIXTRON has, since 2017, focused on the application of its core MOCVD technology. The success of this strategy is reflected in our figures for 2018: Equipment for this business area accounted for the majority of our sales in the year, benefiting in particular from the momentum in laser applications. This enabled us to further expand our position as a technology leader for MOCVD systems.

The reason for this was the strength of the continued increase in the importance of optoelectronics in the major technology trends of digitization, communication and mobility, in which laser based applications in particular play a decisive role. Lasers are used in 3D sensing for Virtual Reality (VR) and Augmented Reality (AR) in modern consumer electronics or as light sources for optical data transfer in IT and telecommunications. The Internet of Things (IoT), the interconnectedness of industry (Industry 4.0) or developments such as Autonomous Driving will not be possible without the laser and RF chips, ROY and IR LEDs made on AIXTRON equipment.

Revenues from equipment for red, orange and yellow (ROY) LEDs, which are used primarily in large format displays for sports stadiums, airports and shopping malls as well as in rear lights for cars, also developed positively in the past financial year. Of great interest to AIXTRON is the developing market for MicroLEDs, which initially are required for the manufacture of smaller displays in smartwatches or fitness trackers, but are also used in the first prototypes of large format TV displays. With the latest generation of our G5 planetary systems, we are also providing the basic technology for the production of this sophisticated LED variant that is relied on by almost all major market players.

An important growth driver for AIXTRON's future is power electronics. Gallium nitride (GaN) semiconductor devices manufactured on our equipment are increasingly used in highly efficient power supplies for servers and computers as well as in compact or wireless power supplies for smartphones. High-frequency components are used for data transmission in current and future mobile radio standards such as 5G. We also expect significant market growth for silicon carbide (SiC) components, driven by applications in the powertrain and charging stations for electric vehicles as well as in photovoltaics and wind energy.

Through the joint venture concluded with our Korean partner IRUJA at the end of 2018, we have also set the course for the successful market positioning of our OLED subsidiary APEVA. We are currently working with a major Asian display manufacturer to qualify our OVPD technology for the production of OLED displays. Following the successful commissioning of a R&D system for the substrate size Gen1 in the previous year, we installed a larger Gen2 system (370 x 470 mm) in 2018 for the customer's further qualification process. Assuming successful qualification, we expect to receive an order for the first production scale OVPD deposition chamber before the end of 2019.

In addition, research & development continues to play an important role at AIXTRON. We are not only working on topics such as MOCVD 4.0, but are also specifically developing our future equipment technology for the production of graphene, carbon nanotubes and carbon nanowires in our innovation pool, for example. These are long-term projects aimed at securing and expanding AIXTRON's product portfolio in the coming years. The potential of these materials cannot be overestimated for applications such as displays, batteries or high-performance semiconductor components.

Our Executive Board Members Dr. Felix Grawert and Dr. Bernd Schulte (from left to right).

Dear Shareholders,

In 2018, we significantly increased profitability and focused the company on sustainable growth. This performance is based not least on the competence and commitment of all our employees, to whom we would like to express our very special thanks at this point. Maintaining this base and expanding it with new colleagues is one of the most important strategic tasks for AIXTRON's continued growth in the coming years.

Also, the support of our Supervisory Board was important for the successful realignment of our company in recent years.

In addition, we would like to thank you, our shareholders, for your many years of trust in our company. We are convinced that AIXTRON has the necessary strength and innovation to remain a technology leader in the semiconductor industry in the future.

Yours sincerely,

Dr. Felix Grawert
Member of the Executive Board

Dr. Bernd Schulte
Member of the Executive Board

Supervisory Board Report

In 2018, AIXTRON successfully implemented and completed the realignment and prioritization of its technology portfolio initiated in the previous year. By focusing the core business on attractive and future-oriented growth markets and reducing operating costs, a return to sustainable profitability was achieved.

The joint venture agreement signed between AIXTRON SE and H&IRUJA Co Ltd. of South Korea on October 24, 2018, represents another important milestone for the OLED deposition technology outsourced to APEVA SE in 2017. IRUJA will contribute its automation technology to APEVA and invest in the Company. As a result, APEVA will become a full-line provider of OLED deposition systems. The Supervisory Board closely monitored the preparations and negotiations of the joint venture and approved the conclusion of the contract.

Trends such as increasing digitization, networking and further miniaturization will support AIXTRON's growth. Electric vehicles, compact power supplies for smartphones, data centers and, for example, power generation from renewable sources require efficient and reliable power semiconductors. Further growth impulses are expected in the optoelectronics area from increasing requirements in the area of sensor technology and optical data transmission. In all these growth markets, AIXTRON has established an excellent position thanks to leading technologies. AIXTRON will continue to exploit these opportunities.

Throughout the entire fiscal year 2018, the Supervisory Board, under my chairmanship, fully satisfied its responsibilities and duties as stipulated by law, the Articles of Association and by-laws.

Cooperation between the Supervisory Board and the Executive Board

The Supervisory Board continuously monitored the Board of Management in its management activities and advised it on all matters of importance to the company, so that the Supervisory Board was assured at all times of the legality, regularity, suitability and efficiency of the company management.

The Supervisory Board was directly included in all decisions of fundamental importance for the company in due time. The Executive Board informed the Board regularly, promptly and comprehensively about the course of business, the corporate planning as well as the strategic development of the AIXTRON Group. In addition, the Supervisory Board regularly met with the Executive Board to discuss the risk situation, risk management and compliance in the company. On the basis of the Management's reports, the development of business and important events for the company were discussed in detail. The Supervisory Board approved the respective resolutions proposed by the Executive Board after thorough review and discussion.

The Supervisory Board did not make use of the option to inspect the books and documentation of the company (Section 111(2) German Stock Corporation Act (AktG)).

The cooperation with the Executive Board was marked in every respect by responsible and purposeful action. The Executive Board fully fulfilled its reporting obligations vis-à-vis the Supervisory Board both verbally and in writing.

As Chairman of the Supervisory Board, I remained in contact with the Executive Board even beyond the Supervisory Board meetings. In addition to the current business situation and important business transactions, we particularly discussed strategic realignment issues.

Focus of the Discussion in Plenary Sessions

In 2018, the Supervisory Board held **four ordinary meetings** on February 26, May 15, September 19 and December 13, at which all acting members of the Supervisory Board were present except for one meeting. Only at the meeting on May 15, Dr. Martin Komischke was unable to attend, but gave his written approval to the resolutions of the Supervisory Board.

In preparation for these meetings, all members of the Supervisory Board received detailed quarterly reports on the company's situation and other information such as internal control reports, meeting minutes, company presentations, analyst reports, consensus estimates, press releases and AIXTRON's financial reports and financial statements. These are made available via an encrypted digital platform specifically set up for the Supervisory Board. On the basis of current financial figures, as well as updated forecast reports and development plans (orders, sales, competition, market shares), the Supervisory Board was able to form an adequate picture of the business situation before and during the meetings. Deviations of the business course from the established budget planning were explained and justified in detail.

In addition, the Supervisory Board intensively discussed the optimization of the technology portfolio and related measures in order to secure long-term and profitable growth in the core markets addressed by AIXTRON.

An **extraordinary Supervisory Board meeting** was held on May 16 to fill the vacant positions in the Audit Committee, the Capital Markets Committee and the Nomination Committee following the resolution of the Annual General Meeting to reduce the size of the Supervisory Board to five members and the related resignation of Prof. Dr. von Rosen.

Supervisory Board Meetings in 2018

The meeting on **February 26, 2018,** focused on the annual and consolidated financial statements for the 2017 financial year and the corresponding discussions and resolutions. In addition, we discussed the draft agenda prepared for the 2018 Annual General Meeting, which we approved after clarifying any outstanding items. Furthermore, the management structure of AIXTRON SE was discussed and it was decided to intensify the cooperation between the Supervisory Board and the Executive Board in 2018. In order to strengthen the discussion on technology topics within the Supervisory Board as a whole, the dissolution of the Technology Committee was also resolved. The non-financial group report (CSR Report) to be prepared by AIXTRON and reviewed by the auditor were audited, discussed and approved.

At its meeting on **May 15, 2018,** the Supervisory Board discussed in detail the strategy and roadmap of the AIXTRON Group with regard to the realignment of the technology portfolio. In particular, the addressable markets for MOCVD-based power electronics applications based on GaN- and SiC-based technologies as well as the possibilities for the further development of APEVA were examined in detail.

At the extraordinary meeting on **May 16, 2018,** the members of all Supervisory Board committees were newly elected due to the resignation of Prof. Dr. Rosen from the Supervisory Board on the day of the Annual General Meeting, May 16, 2018. The members of the Audit Committee are Prof. Dr. Blättchen, Dr. Biagosch and me. The Nomination Committee consists of Prof. Dr. Blättchen, Prof. Dr. Denk and myself. Prof. Dr. Blättchen and I were again appointed as members of the Capital Markets Committee.

At the ordinary meeting on **September 19, 2018,** the Executive Board reported on the AIXTRON Group's business performance in the first half of the year and provided an outlook for the full year 2018. We were given an update on the Company's strategy and discussed developments in the Chinese display and semiconductor industries with regard to the AIXTRON Group's business outlook. We were also updated on the status of negotiations with a potential joint venture partner for APEVA in Korea. In addition, the Executive Board presented the strategic roadmap for the application areas in optoelectronics.

On **December 13, 2018,** the Supervisory Board of AIXTRON SE met for its last ordinary meeting of the year. Here we discussed the budget for 2019 presented by the Executive Board in detail and approved it. The 2019 budget includes the detailed revenue, earnings, financial and investment planning as well as the planned personnel development of the AIXTRON Group. Finally, with the help of the comprehensive questionnaire distributed to the members of the Supervisory Board in September 2018, we conducted a self-evaluation of our activities with the result that the Supervisory Board and its committees work efficiently.

Committees

The Supervisory Board formed four committees, an Audit Committee, a Technology Committee (until February 2018), a Nomination Committee as well as a Capital Market Committee. These committees prepare resolutions and topics to be discussed in the plenary of the Supervisory Board.

The **Audit Committee** addresses, in particular, monitoring of the reporting, the accounting process, corporate governance & compliance, the effectiveness of the internal control system, the risk management system, the internal audit system and the final audit. The Chairman of the Audit Committee, Prof. Dr. Blättchen, is a Supervisory Board member whose area of expertise is reporting and audits (as required Section 107 (4); Section 100 (5) AktG) and who has particular knowledge and experience in the application of internal control processes.

In the year under review, the Supervisory Board instructed the auditing firm Deloitte GmbH, as proposed by the Audit Committee, to audit the single-entity financial statements of AIXTRON SE and the consolidated financial statements as of December 31, 2018, to audit the Company's early risk detection system in accordance with Section 91 (2) of the German Stock Corporation Act (AktG), to prepare a „Management Letter", to carry out determinations in accordance with Section 7.2.3 of the German Corporate Governance Code and, in accordance with Section 111 (2) AktG, to carry out the contextual audit of the non-financial group report to be prepared for 2018. In addition, the key audit matters (KAM), which must be mentioned in the audit opinion of the AIXTRON Annual Financial Statements and Consolidated Financial Statements for 2018, were discussed with the auditor.

The Audit Committee met four times in 2018 (February 26, May 15, September 18, December 12), with all three members of the committee attending. For the quarterly financial statements as of March 31, 2018, June 30, 2018 and September 30, 2018, we held discussions with the auditors and accounting representatives and discussed the publication of the quarterly figures in detail with the Executive Board. In addition to the above-mentioned tasks and quarterly accounting matters, the audit committee dealt with the following special topics, among others:

- Evaluation of the declaration of independence and the „Management Letter" of the auditors
- Non-financial Group Report (CSR Report)
- Compliance Training Plan for 2018
- Internal audits 2018 and audit plan for the following year
- Information security - status and focus in 2018
- Accounting and auditing of the APEVA subgroup
- Expansion of risk management and compliance to APEVA Group incl. its joint venture partners

- Expansion of risk management to non-financial reporting items
- Tax audits, in particular at AIXTRON SE
- In the context of the upcoming internal rotation of the auditors, the new audit team was involved at an early stage

The **Technology Committee** was concerned until its dissolution, in particular, with questions surrounding AIXTRON's market positioning in technology, patents, product planning (product roadmaps) and technology development as well as potential technology acquisitions or partnerships and other topics relating to diversification. Following the successful realignment of the technology portfolio, the status reports from the areas of optoelectronics, power electronics and OLEDs as well as the further development of specific products and their critical examination following the dissolution of the committee are discussed in the ordinary plenary meetings of the Supervisory Board.

Prior to the dissolution of the committee, its Chair, Prof. Dr. Denk, reported on the activities of the Technology Committee for the last time in the plenary meeting on February 26, 2018. In 2018, the Technology Committee met only once, on February 26, 2018, with all three members of the Committee being present.

The **Nomination Committee,** consisting of three members, provides proposals to the Supervisory Board plenum in case of new appointments to the Supervisory or Executive Board. In doing so, it also takes into account its own targets defined in 2010 for the first time in its future composition as well as the renewed targets of the reporting year.

In 2018, the Nomination Committee met three times, on October 10, November 9, and December 12. These meetings were all held in connection with the election of candidates for future appointments to the Supervisory Board.

The **Capital Market Committee** deals with activities with possible capital market relevance. It consists of two members. In 2018, there were no meetings of the Capital Market Committee.

Corporate Governance and Declaration of Conformity

The Supervisory Board regularly follows the development of the Corporate Governance Standards and, together with the Executive Board, issues a joint **Corporate Governance Report.** We will continue to support the Executive Board in its efforts to remain in full compliance with the German Corporate Governance Code recommendations.

In the current **Declaration of Conformity** in accordance with Section 161 AktG dated May 2018, full compliance with the recommendations of the German Corporate Governance Code, with the exception of the deviations stated, is certified.

No conflicts of interest were reported by the members of the Supervisory or Executive Board in the fiscal year.

Audit and Annual Financial Statement

Following the resolution passed at the Annual General Meeting on May 16, 2018, the Supervisory Board awarded the mandate to audit the Financial Statements of AIXTRON SE and the Consolidated Financial Statements of the AIXTRON Group for the 2018 fiscal year to the auditing company Deloitte GmbH, Düsseldorf.

The Executive Board's measures aimed at an early detection of risks that could potentially jeopardize the performance and existence of the company, as well as the legal, proper and productive reporting of non-financial information in the Sustainability Report for 2018 was also subject to audit. It was also agreed that the auditor would have to inform the Supervisory Board or make a note in the audit report if, when performing the audit of the financial statements, the auditor ascertained facts which indicate that the declaration of conformity issued by the Executive Board and Supervisory Board in accordance with Section 161 AktG was inaccurate. As in previous years, the auditors did not make note of any such findings for fiscal year 2018.

The Financial Statements of AIXTRON SE as of December 31, 2018 and the Management Report were prepared in accordance with the requirements of the German Commercial Code (HGB), while the Consolidated Financial Statements as of December 31, 2018 and the Group Management Report were prepared in accordance with Section 315e HGB on the basis of the International Financial Reporting Standards (IFRS). The independent auditing firm Deloitte GmbH audited the Financial Statements and the Consolidated Financial Statements as well as the non-financial group report of AIXTRON SE for fiscal year 2018. All three reports were given an unqualified audit opinion by the auditors. The auditors assert that the Management Reports of the Company and the Group present a true and fair view of the current business and future development of the Company and the Group. The audit team above, with the lead auditor Prof. Dr. Holger Reichmann, has been employed in the audit of the financial statements of AIXTRON SE since 2012. Deloitte will appoint a new audit team with the lead auditor André Bedenbecker for the audit tasks in the 2019 financial year.

The Annual Financial Statements (Annual Financial Statements of AIXTRON SE and the Consolidated Financial Statements as of December 31, 2018, including the Management Report of the company and the group), the non-financial group report and the audit reports by the auditors were submitted to the Audit Committee and the Supervisory Board for examination in a timely manner. We **examined these documents in detail.** The Annual Financial Statements of AIXTRON SE, the Consolidated Financial Statements, and the respective Management Reports as well as the non-financial group report were **discussed in detail** at the meeting of the Audit Committee and the entire Supervisory Board on February 25, 2019, with due consideration given to the auditor's reports. The auditor, who participated in both the meeting of the Audit Committee as well as the meeting of the Supervisory Board, reported on the key audit results, which also covered the internal control and risk management system relating to the accounting process, and was available to answer any additional questions raised by the Audit Committee or Supervisory Board.

Following our own examination, we neither had objections to the non-financial group report nor to the presented Annual or Consolidated Financial Statements. The Management and Group Management Reports matched our own assessment of the Company's and Group's situation. We fully concurred with the auditor's results and opinion and consequently, in a resolution passed on February 25, 2019, **we approved** the Annual Financial Statements and Consolidated Financial Statements of the company as well as the non-financial group report prepared by the Executive Board for fiscal year 2018. The Annual Financial Statements of AIXTRON SE are therefore **formally adopted.**

Note of thanks from the Supervisory Board

On behalf of the Supervisory Board, I would like to thank the members of the Board and all employees worldwide for their hard work in the past fiscal year and the employee representatives for their constructive cooperation with the Company's executive bodies.

Herzogenrath, February 2019

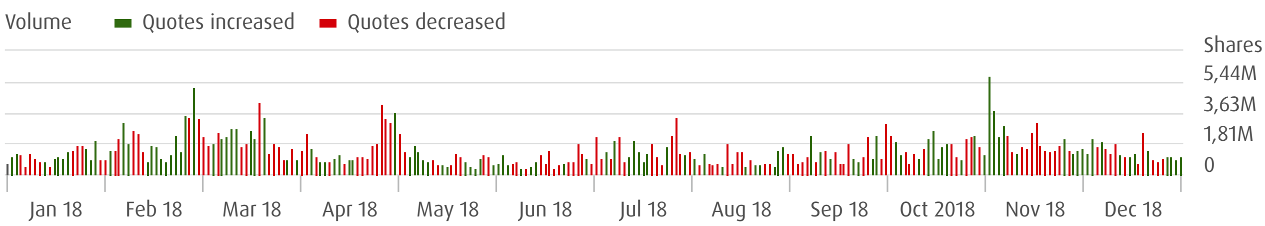
AIXTRON SE

Kim Schindelhauer
Chairman of the Supervisory Board

THE AIXTRON SHARE

The AIXTRON share is listed in the Prime Standard segment of the Frankfurt Stock Exchange and in the TecDAX of Deutsche Börse AG. On September 24, 2018, our share was also included in the SDAX, as Deutsche Börse removed the previous separation of its indices into classic and technological segments as of this date. Although the DAX stocks Deutsche Telekom, Infineon and SAP were included in the TecDAX in the course of these index adjustments and TecDAX member Wirecard rose to the DAX at the same time, AIXTRON shares ranked 21st out of 30 in terms of market capitalization as of December 31, 2018 (December 31, 2017: 18th), and 9th out of 30 (2017: 8th) in terms of transaction volume in 2018 in the TecDAX. In the SDAX, AIXTRON shares ranked 14th out of 70 in terms of market capitalization at the end of 2018 and was the most traded share in the SDAX in terms of transaction volume in 2018 (1st out of 70). In addition to traditional trading venues such as XETRA and the German regional exchanges, AIXTRON shares are traded (to a not inconsiderable extent) on alternative online trading platforms such as Tradegate, Turquoise or Chi-X.

AIXTRON Share Price Development and Trading Volumes during 2018



AIXTRON Share with Volatile Price Development

The stock market year 2018 gave investors little reason to rejoice. All major indices closed the year with significant losses.

Germany's leading index, the DAX, made a very positive start to 2018, but lost considerable value against the background of the cooling economic boom since the beginning of the year and the increasing economic risks in foreign sales markets, closing the year with minus 18%, its most unprofitable year since the international financial crisis.

Despite the very successful operating performance in 2018, the AIXTRON share price was extremely volatile. After the capital markets responded positively to the strategic realignment of the AIXTRON Group that was initiated in 2017, the AIXTRON share price initially rose strongly in the first months of the year. The investor community continued to expect an increasing distribution of laser-based 3D sensor functionality in mobile phones. Following the Consumer Electronics Show (CES), which regularly highlights key industry trends at the start of the year, analysts also expected MicroLED displays to become increasingly relevant. The Executive Board's guidance for 2018 as a whole, with an increase in all key financial figures, was very much welcomed by market participants. On March 16, the optimism of the investors drove the share price to a 2018 annual high of EUR 19.27.

From the end of March 2018, however, the smartphone supply chain suffered from inventory adjustments and muted forecasts. AIXTRON's share price fell rapidly from its previous high. The positive Q1/2018 results stabilized the share price in May. However, continued fears of further reductions in smartphone orders, declining capital spending in the semiconductor industry and the negative impact of the US-China customs dispute on global economic growth had an additional negative impact on the share in June. The downturn in the technology sector that began in the summer was also reflected in the performance of the TecDAX. AIXTRON's share price briefly recovered as a result of the strong H1/2018 results, but continued geopolitical tensions and the headwind from the industry increasingly dominated the market. AIXTRON's share price fell by more than 30% since the beginning of the year and reached its annual low of EUR 7.55 on October 24, 2018.

At the end of October, AIXTRON's share price briefly recovered following the announcement of the joint venture agreement between our OLED subsidiary APEVA and the Korean automation specialist IRUJA and the nine-month results for 2018. A series of profit warnings from smartphone component suppliers, however, triggered further strong price losses in the days following publication. In December, AIXTRON's share price and benchmark indices continued to be affected by ongoing geopolitical uncertainties and the deterioration of the global economic environment.

However, from its annual low on October 24, 2018, AIXTRON's share price had risen by approximately 8% by the end of the year. The AIXTRON share closed 2018 at EUR 8.41 (-27.4% compared to EUR 11.58 at the end of 2017), which corresponds to a market capitalization of almost EUR 950m. In comparison, the SDAX and TecDAX indices fell by approximately 21% from 1,300 points to 1,032 points and by approximately 3% from 2,529 points to 2,446 points respectively during 2018.

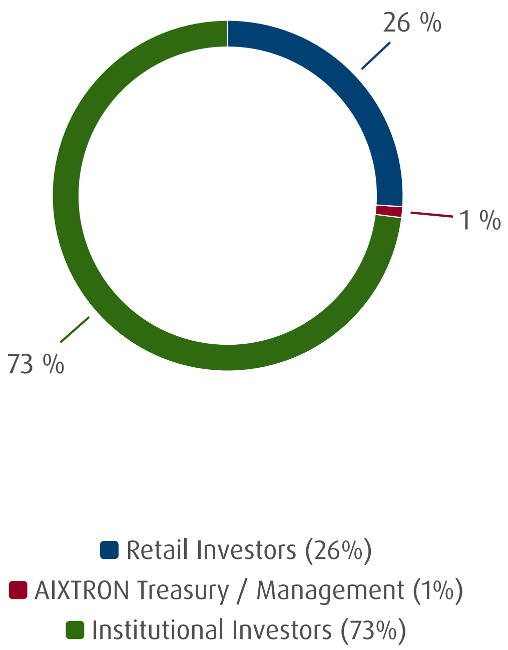
Broadly Diversified Shareholder Structure

As of December 31, 2018, approximately 26% of AIXTRON shares were held by private individuals, most of whom are domiciled in Germany. Approximately 73% of AIXTRON's outstanding shares were held by institutional investors. The majority of institutional investors (approximately 37%) was located in the United Kingdom, followed by Germany (23%) and the United States (21%). The remaining investors came from other parts of Europe and the world. At the end of 2018, the largest shareholders according to the most recent notifications were T. Rowe Price Group, the Oppenheimer Global Opportunities Fund and Deutsche Asset Management, each holding more than 5% of AIXTRON shares. 99% of the shares were in free float as defined by Deutsche Börse and approximately 1% of AIXTRON's shares were held by the Company.

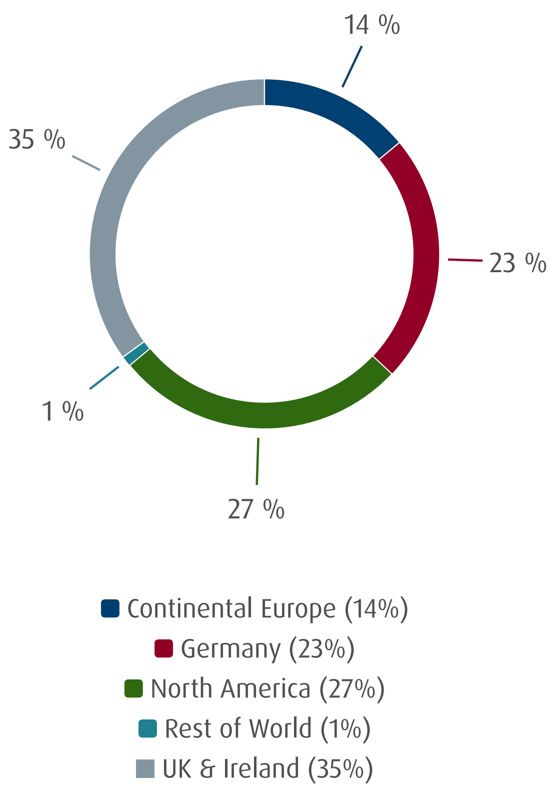
According to the voting rights notifications and public disclosures pursuant to Section 26 para. 1 WpHG, the following institutional investors held shares of more than 3% in AIXTRON SE at the end of 2018:

- T. Rowe Price International Funds, Inc., Baltimore, Maryland, USA, 5.2%.
- OppenheimerFunds, Inc., Denver, Colorado, USA, 5.2%.
- Deutsche Asset Management Investment GmbH, Frankfurt, Germany, 5.1%.
- Argonaut Capital Partners LLP, Edinburgh, United Kingdom, 4.9%.
- Ministry of Finance on behalf of the State of Norway, Oslo, Norway, 4.9%.
- Baillie Gifford & Co, Edinburgh, United Kingdom, 4.9%.
- Citigroup, Inc., Wilmington, Delaware, USA, 4.6%.
- BlackRock, Inc. in Wilmington, Delaware, USA, 4.3%.
- Oppenheimer International Small-Mid Company Fund, Wilmington, Delaware, USA, 3.1%.
- Varma Mutual Pension Insurance Company, Helsinki, Finland, 3.1%.

Shareholder Structure



Regional Split of Free Float



Research Coverage

In fiscal year 2018, a total of 12 international banks and brokerage houses (2017: 14) regularly published stock research reports on AIXTRON and the development of the semiconductor industry. Of the 12 financial analysts who covered our shares as of December 31, 2018, five gave a „buy“ recommendation, another four recommended to hold AIXTRON shares and three analysts rated the shares a „sell“. The average target price at the end of December 2018 was EUR 13.74 (2017: EUR 10.11).

AIXTRON shares are currently being monitored by the following financial analysts:

Firm	Analyst	Location
Bankhaus Lampe	Karsten Iltgen	Düsseldorf
Barclays Capital	Andrew Gardiner	London
Berenberg	Charlotte Friedrichs	London
Deutsche Bank	Uwe Schupp	Frankfurt
DZ Bank	Harald Schnitzer	Frankfurt
Exane BNP Paribas	David O'Connor	San Francisco
Independent Research	Markus Friebel	Frankfurt
Liberum Capital	Janardan Menon	London
MainFirst	Jürgen Wagner	Frankfurt
Oddo BHF	Stéphane Houri	Frankfurt
Pareto Securities	Cengiz Sen	Frankfurt
Warburg Research	Malte Schaumann	Hamburg

Our Investor Relations Activities

Transparency and openness in a continuous dialogue with our shareholders and capital market participants are our claim. Our investor relations work is aimed at strengthening confidence in our shares in the long term and achieving a fair valuation on the capital market. To this end, we provide our shareholders and the capital market with accurate, timely and relevant information about the AIXTRON Group's business and the market environment in which we operate. In addition, AIXTRON is committed to complying with the principles of good corporate governance.

In individual or group discussions at investor roadshows in the major financial centers in Europe and North America, our management and investor relations answered questions from investors and financial analysts on the AIXTRON Group's business strategy and development as well as industry and market trends.

Several investor meetings were also held in our offices and production facilities in Herzogenrath near Aachen in 2018. On our first Capital Markets Day in March 2018, more than 30 financial analysts and institutional investors visited us to attend presentations by the Executive

Board and second-tier experts to get an idea of our production strategy and some of the applications of our cutting-edge technology.

In addition, AIXTRON was represented at numerous national and international capital market conferences in Europe (Frankfurt, Barcelona, Berlin, London, Munich, Paris) and the United States (Las Vegas, New York, San Francisco) in 2018.

In total, AIXTRON recorded approximately 87 man-days interacting with the financial markets through company visits, one-on-one meetings, investor conferences, and roadshows worldwide, and more than 200 personal conversations, telephone calls, and telephone conferences with financial market players.

Approximately 250 shareholders attended the AIXTRON Annual General Meeting, which was held in Aachen, Germany, on May 16, 2018. The AIXTRON Executive Board presented them with a comprehensive report on the Company's position and prospects.

CORPORATE GOVERNANCE

Declaration on Corporate Governance

Declaration of Conformity

The Executive Board and Supervisory Board of AIXTRON SE declare pursuant to Art. 9 para. 1 lit. c) (ii) SE-Reg. in connection with Section 161 of the German Stock Corporation Act (AktG) that, with the exception of the deviations declared in the most recent Declaration of Conformity of May 2018, AIXTRON SE has complied with the recommendations of the Government Commission Deutscher Corporate Governance Kodex (or DCGK in the following) in the version of February 7, 2017 and, with the following exceptions, continues to comply with the recommendations of the Government Commission German Corporate Governance Code in the version of February 7, 2017 and will comply accordingly.

Composition of the Executive Board (4.2.1 line 1 DCGK)

Section 4.2.1 Sentence 1 of the German Corporate Governance Code (DCGK) recommends that the Management Board should consist of several persons and have a chairman or spokesman. The Executive Board of AIXTRON SE consists of two persons. A chairman or spokesman of the board is not appointed. Rules of procedure were issued for the Executive Board in which the distribution of responsibilities is regulated in detail and equal management of AIXTRON SE by both Executive Board members is provided for. The Supervisory Board is of the opinion that, given the size of the Management Board and its structure, it is not appropriate to appoint a chairman or spokesman of the Management Board.

Consideration of the ratio of the remuneration of the Board of Management to the remuneration of senior executives and the workforce as a whole, including the development over time (4.2.2 (2) Sentence 3 DCGK)

In Section 4.2.2 (2) Sentence 3, the German Corporate Governance Code (DCGK) recommends that the Supervisory Board, when determining the total remuneration of the individual members of the Board of Management, should also take into account the ratio of the remuneration of the Board of Management to the remuneration of the upper management and the workforce as a whole over time, with the Supervisory Board determining how the upper management and the relevant workforce are to be defined for comparison purposes. In concluding the current contracts with the members of the Management Board, the Supervisory Board did not expressly specify how the upper management and the relevant total workforce were to be defined. However, the ratio of the remuneration of the Executive Board to the remuneration of the senior management and the relevant total workforce is used as the basis for assessing the appropriateness of the remuneration of the Executive Board in accordance with Section 4.2.2 (2) Sentence 2 DCGK.

Maximum limits for Executive Board remuneration (4.2.3 (2) Sentence 6 DCGK)

In Section 4.2.3 (2) Sentence 6, the German Corporate Governance Code (DCGK) recommends that the total compensation of the members of the Management Board and their variable compensation components should be capped. The total remuneration of the members of the Executive Board of AIXTRON SE includes both a fixed remuneration and various variable remuneration components. The variable remuneration is limited to a maximum of EUR 6.5 million with regard to the variable bonus for the entire Management Board. Half of the variable remuneration is granted in the form of commitments on company shares. The amount of the respective commitment for shares is subject to the aforementioned maximum limit in relation to the time of the commitment, so that the recommendation is complied with in this respect. The shares will only be transferred after the expiry of a period of three years after the respective commitment. During this period, the members of the Management Board benefit unrestrictedly from a potential increase in the share price, which could be seen as a deviation from the wording of the recommendation. However, a further limitation of the variable remuneration in relation to the time of the transfer of the shares does not appear to be in the best interests of the Company, as this would counteract the main incentive of the share-based remuneration to work towards an increasing enterprise value and the member of the Board of Management would be disadvantaged in the event of a further increase in the share price once such a limit is reached.

Standard limit for length of service on the Supervisory Board and age limit for Supervisory Board members (5.4.1 (2) Sentence 2 DCGK)

In Section 5.4.1 (2) Sentence 2, the German Corporate Governance Code (DCGK) recommends that the Supervisory Board should specify specific objectives for its composition, which should take into account, among other things, a regulatory limit to be determined for the length of service on the Supervisory Board, taking into account the company-specific situation. It is difficult to define an optimal length of service and the Supervisory Board considers it advantageous to keep the currently available know-how on the Supervisory Board against the background of the current company situation. This includes, for example, many years of knowledge of the company and the niche markets addressed by the company as well as comprehensive knowledge of capital market and financially relevant issues of a globally positioned group. Due to these factors, the Supervisory Board did not set a limit for the length of service on the Supervisory Board at that time.

Consideration of the chairmanship and deputy chairmanship of the SupervisoryBoard and the chairmanship and membership of committees in Supervisory Board remuneration (5.4.6 (1) Sentence 2 DCGK)

In Section 5.4.6 (1) Sentence 2, the German Corporate Governance Code (DCGK) recommends that the remuneration of the Supervisory Board should take into account the chairmanship and deputy chairmanship of the Supervisory Board as well as the chairmanship and membership of committees. In addition to membership of the Supervisory Board, the Supervisory Board remuneration resolved by the Annual General Meeting on 16 May 2018 only takes into account the chairmanship and deputy chairmanship of the Supervisory Board and the chairmanship of the Audit Committee. Further consideration of the deputy chairmanship of the Audit Committee and the chairmanship and deputy chairmanship of the Nomination Committee is not considered meaningful, as the expenses incurred for these activities have already been adequately covered by the recently adjusted Supervisory Board remuneration.

Herzogenrath, February 2019
AIXTRON SE

The Executive Board of AIXTRON SE

Dr. Felix Grawert
Member of the Executive Board

Dr. Bernd Schulte
Member of the Executive Board

For the Supervisory Board of AIXTRON SE

Kim Schindelhauer
Chairman of the Supervisory Board

Information on Corporate Governance Practices

AIXTRON SE has had a **Code of Ethics** since 2006 for Executive Board members and certain managers in finance. The aim of this Code is to promote upright and ethical conduct, including the ethical handling of conflicts of interest, the complete, fair, precise, timely and transparent disclosure of quarterly and annual reports, compliance with prevailing laws, rules and regulations and the immediate internal reporting of breaches of the Code where necessary and to ensure accountability for compliance with the Code. The complete text of the Code can be found on the AIXTRON website under "Code of Ethics" in the Investors/Corporate Governance section.

In addition, a **Compliance Code of Conduct** applies to the Executive and Supervisory Boards, senior management team as well as all employees Group-wide, which holds them accountable for conscientious conduct in conformity with the law. Among the topics addressed, this Code covers the following issues: responsibility and respect towards people and the environment, compliance with the legal conditions, legal and ethical conduct by each individual employee, loyalty to the Company, fair and respectful treatment of fellow employees, rejection of any form of discrimination, dealing responsibly with corporate risks, acting in an environmentally responsible manner, security in all operating areas, working in a professional manner, reliability and fairness in all business relationships, compliance with guidelines on giving/accepting unfair advantages, dealing with insider information and the treatment of Company property. The full texts of the Compliance Code of Conduct can be downloaded from the AIXTRON website in the Investors/Corporate Governance section under „Code of Conduct."

Furthermore, AIXTRON issued a Group-wide **Compliance Manual** in 2010 which applies to all members of the Executive and Supervisory Boards as well as senior management and which is based on the principles of the Compliance Code of Conduct. The Compliance Manual provides detailed explanations on the compliance organization at AIXTRON, the legal and regulatory requirements and on the resulting conduct requirements applicable to the Executive Board, Supervisory Board, senior management and employees. This manual is regularly updated to reflect new/amended legal and regulatory requirements as well as company internal specifications. The teaching of the contents is an elementary component of the Company-wide compliance training offer. Compliance training is mandatory for members of the senior management team as well as for all other employees of the Group. This is controlled and monitored by our Compliance Office.

In addition, every quarter, the Group-wide members of the senior management as well as select key staff members declare in writing that the compliance requirements were observed in their area of responsibility. If the Compliance Manual has been updated, they also declare that they will take note of the updated version and follow and communicate its contents within their area of responsibility. In addition, management principles were defined for the Company's senior managers which include what is required of senior managers when dealing with employees.

AIXTRON has a **whistleblower system.** Notifications of violations of legal, regulatory and internal company requirements can be sent confidentially to the Chairman of the Supervisory Board of AIXTRON SE via a specified e-mail address or in the form of a letter. The Chairman of the Supervisory Board - or other recipients of reports of violations - decides together with the Compliance Office, depending on the subject matter and scope of the report, whether to involve other persons and/or bodies. In the event of proven violations or grievances, the involved persons/body will work out proposed solutions with the aim of a prompt remedy, including any necessary sanctions and improvements to the management and monitoring processes. Any reports or indication received will be treated discreetly, confidentially and anonymously by the persons/bodies involved. AIXTRON will not impose any reprisals against employees who report violations.

Furthermore, AIXTRON has established a **Vendor Code of Conduct,** which defines ethical, moral and legal standards related to the purchase and use of what are known as conflict minerals (gold, tantalum, tungsten, tin) within the AIXTRON supply chain. The key content of this code includes information on U.S. rules regarding the use of conflict minerals, the expectations placed on suppliers and the consequences in the event of non-compliance.

The full text of the Vendor Code of Conduct can be accessed on the AIXTRON website in the Company/Suppliers/Compliance section.

Executive Board and Supervisory Board Operating Procedures as well as Composition and Mode of Operation of Committees

AIXTRON SE is a European stock company (Societas Europaea) and is subject not only to the German stock corporation law but also to the superordinate European SE regulations and the German SE Implementation Act. The Company has a dual management and control structure consisting of an Executive Board and a Supervisory Board.

The Executive Board is responsible for managing the Company and informs the Supervisory Board regularly, comprehensively and without delay about all relevant issues involving strategy, planning, business development, the risk situation, risk management and compliance.

The Supervisory Board appoints the Executive Board members and oversees and advises the Executive Board in its management duties. To perform certain transactions and measures specified in the Articles of Association of AIXTRON SE or the Executive Board's by-laws, the Executive Board must obtain the prior approval of the Supervisory Board. The Executive Board is required to report to the Supervisory Board on the conclusion, amendment or termination of important agreements that do not require approval under the Articles of Association or the Executive Board's by-laws. The Executive Board is also required to notify the Supervisory Board of all material events, even those that do not require the approval of the Supervisory Board.

As in previous years, the Executive Board and the Supervisory Board worked closely together throughout 2018 for the benefit of the Company. The shared objective is to secure AIXTRON's leading market positions in the long term in order to benefit from growing end markets.

Executive Board

According to Article 8 of AIXTRON SE's Articles of Association, the Executive Board consists of two or more people. The Supervisory Board determines the precise number of Executive Board members. It also decides whether there should be a Chairman and whether deputy members or a Deputy Chairman should be appointed.

AIXTRON SE's Executive Board is comprised of two members who jointly manage the business as equal members of the Executive Board:

Executive Board
(as of December 31, 2018)

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

Notwithstanding the Executive Board's overall legal responsibility and its obligation to collaborate closely and in confidence with their colleagues, the assigned responsibilities of the individual members of the Executive Board are as follows in accordance with the currently valid business distribution plan:

Within the AIXTRON GROUP, Executive Board Member Dr. Grawert is responsible for Strategic Planning, Marketing, Sales, Customer Service, Human Resources, Finance and Reporting.

Within the Group, Executive Board Member Dr. Schulte is responsible for Research & Development, Procurement, Investor Relations & Communications, Corporate Governance, Environment, Social and Governance, Compliance & Risk Management, Information Technology, Legal, Quality Management, Production, Logistics and Facility Management.

With the Supervisory Board's approval, the Executive Board has adopted by-laws that are regularly reviewed to ensure they are appropriate and up to date. They include a list of matters that are of fundamental or substantial importance and about which the Executive Board is required to make formal resolutions. Examples include decisions on: strategies, corporate plans and budgets; significant changes in the organization of the Company and Group; the commencement or discontinuation of areas of activity within the Company; the acquisition and sale of land and land rights; the conclusion, amendment, and termination of intercompany or significant license agreements; the commissioning of larger external consulting and research projects; fundamental questions in the area of human resources and human resources policy; determination of the principles governing representation in business organizations and associations; appointments to the management and supervisory bodies of subsidiaries and associated companies; important publications and information for the public above and beyond normal reporting requirements; the initiation of lawsuits and legal disputes; the granting of collateral and assumption of guarantees.

The Executive Board's by-laws and the Articles of Association each contain a list of material transactions and measures which require the prior approval of the Supervisory Board. Transactions and measures requiring approval pursuant to the Articles of Association or by-laws include, for example, decisions to build or dispose of operating sites, acquire or sell property; the starting or ending of business activities or the granting of or taking out loans.

According to the by-laws, meetings of the Executive Board are to be held at least twice a month or whenever the Company's interests shall so dictate. Executive Board meetings are convened and directed by the Chairman of the Executive Board. Any member of the Executive Board may request that an Executive Board meeting be convened for a specific issue. The Executive Board shall be deemed to have decision-making quorum if all members have been invited and more than half of the members are able to participate in person, even if via telephone link or by video conference. The Executive Board makes decisions by a simple majority of the votes cast by the members involved in the meeting unless otherwise provided by law, the Articles of Association or by-laws. With two Executive Board members, the Supervisory Board Chairman shall be asked to mediate in the event of a tie.

Every Executive Board member must immediately disclose conflicts of interest to the Supervisory Board and inform other members of the Executive Board accordingly. Members of the Executive Board may only take on part-time activities, especially positions on supervisory boards outside of the Group, after receiving the Supervisory Board's approval.

Supervisory Board

Pursuant to Article 11 of AIXTRON SE's Articles of Association, the Supervisory Board consists of five members. The members of the Supervisory Board are generally appointed until the end of the Annual General Meeting in which the shareholders represented ratify the approval of the Supervisory Board's activities for the fourth fiscal year after the term of office begins, whereby the fiscal year in which the appointment was made is not included.

The Supervisory Board elects a Chairman and a Deputy Chairman from among its members. The Supervisory Board Chairman or – if he is unable to do so – his Deputy convenes and conducts the Supervisory Board meetings.

The Chairman of the Supervisory Board is generally prepared to hold discussions with investors on subjects specific to the Supervisory Board and did so in fiscal year 2018, but only to the extent that such discussions take place within a reasonable framework and the topics fall within the sole competence of the Supervisory Board.

In order to enable gradual personnel changes in the Supervisory Board, the election periods were no longer set uniformly for the Board as a whole when the Supervisory Board was voted in at the Annual General Meeting in May 2016, but instead with differing terms. The term of office of the Supervisory Board members therefore expires at the end of the Annual General Meeting up to the end of which the respective individual was elected.

By resolution of the Annual General Meeting on May 16, 2018, the Supervisory Board was reduced from six to five members. Prof. Dr. von Rosen resigned his Supervisory Board mandate at the end of this year's Annual General Meeting and thus also his membership in the Audit Committee and the Nomination Committee. The members of the committees of the Supervisory Board of AIXTRON SE were therefore newly elected at an extraordinary meeting of the Supervisory Board on May 16, 2018.

The composition of the Supervisory Board in accordance with the Articles of Association and determined by the Annual General Meeting is as follows:

Supervisory Board
(as of December 31, 2018)

Name	Position	Since	End of Term
Kim Schindelhauer[1)2)3)4)5)]	Chairman of the Supervisory Board,	2002	AGM 2019
Prof. Dr. Wolfgang Blättchen[1)3)4)]	Deputy Chairman of the Supervisory Board, Chairman of the Audit Committee, Independent Financial Expert[6)]	1998	AGM 2019
Dr. Andreas Biagosch[1)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

** Until February 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

The requirement of diversity within the Supervisory Board (Section 5.4.1 DCGK) is considered, among other things, in the shape of versatile competencies of the individual Supervisory Board members (regarding areas such as finance, capital market, M&A, technology and markets). In fiscal year 2017, the Supervisory Board set the target for the proportion of women on the Supervisory Board (5.4.1 (3) DCGK) at 16.7% effective July 1, 2017 to December 31, 2021. There is currently one woman on the Supervisory Board, Prof. Dr. Denk, which corresponds to an arithmetical share of 20%.

The Supervisory Board shall include what they consider to be an adequate number of independent members. As per Section 5.4.2 DCGK, a Supervisory Board member will not be considered independent, in particular, if he or she has personal or business relations with the Company, its executive bodies, a controlling shareholder or an enterprise associated with the latter which may cause a substantial and not merely temporary conflict of interest. The Supervisory Board has set itself the target of at least half of its members being independent. Since the Supervisory Board consists solely of elected representatives of shareholders who are to be viewed as independent members according to the criteria under Section 5.4.2 line 2 DCGK, the Company has complied with this objective. A separate naming of the independent Supervisory Board members by name is forgone here, as the list would include the entire Supervisory Board (see table of Supervisory Board members).

Only one former Executive Board member is currently a member of the Supervisory Board (Section 5.4.2 DCGK).

Prior to the Supervisory Board Meeting on December 13, 2018, each Supervisory Board member received the efficiency review questionnaire prepared by the Supervisory Board Chairman every year. After reviewing the returned questionnaires, the Supervisory Board resolved that it is acting efficiently in accordance with Section 5.6 DCGK.

Further mandates of the Executive and Supervisory Board members are listed under Note 35 “Supervisory Board and Executive Board” in the annex of the Consolidated Financial Statements.

The Company did not initiate or conclude any material transactions with related parties during the 2018 fiscal year.

The Supervisory Board has adopted its own set of by-laws. They govern the duties, rights and obligations of the Supervisory Board, the organization of meetings and resolutions and the formation of committees. The Supervisory Board‘s by-laws were last revised in fiscal year 2017. The Audit Committee operates according to separate by-laws approved by the Supervisory Board.

An independent and expert member of the Supervisory Board has chaired the Audit Committee since 2005 in accordance with Section 5.3.2 DCGK. This is not the Chairman of the Supervisory Board.

The Supervisory Board, like the Audit Committee and Technology Committee, generally holds four ordinary meetings per year. Extraordinary Supervisory Board meetings and meetings of the Nomination and Capital Market Committees are called as required.

As requested by the Chairman of the Supervisory Board or chairs of the committees, the Executive Board participates in all regular Supervisory Board or selective committee meetings (usually four times a year), gives written and oral reports on the various points on the agenda and proposed resolutions, and answers questions posed by individual Supervisory Board members. Between meetings, detailed quarterly reports on the status of the Company from the Executive Board are made available to all Supervisory Board members. Furthermore, in numerous telephone calls and face-to-face meetings, the Supervisory Board Chairman, the Chairman of the Audit Committee and the Chair of the Technology Committee are informed by the Executive Board about relevant material developments and forthcoming decisions on material issues.

Resolutions of the Supervisory Board and its committees are generally passed during formally convened meetings. In justified exceptional cases, Supervisory Board members may also participate in a board or committee meeting remotely via telephone or video conference. The Supervisory Board and its committees are deemed to have a quorum if two-thirds, but at least three of its members, participate in person for the adoption of a resolution (outside of formal meetings, if no objections are raised by any member, it is possible to cast votes in writing, by fax, telephone, e-mail or a combination of these communication media). Resolutions are adopted if a majority of the votes are cast in favor. In the case of a tie, the Chairman of the meeting casts the deciding vote.

Every member of the Supervisory Board must disclose conflicts of interest to the Supervisory Board, especially those conflicts arising from a consulting contract or a board position with a customer, supplier, creditor or other business partner. Material conflicts of interest and those which are not just temporary with respect to a Supervisory Board member will result in that member being required to resign.

Operating Procedures and Composition of Committees

No committees have been set up by AIXTRON SE's Executive Board.

The Supervisory Board of AIXTRON SE has formed four committees: An Audit Committee, a Technology Committee (until February 2018), a Nomination Committee and a Capital Market Committee. The Supervisory Board is authorized to also form other committees with its members.

The Audit Committee is composed of one chairman and two other members. The Chairman of the Audit Committee, Prof. Dr. Blättchen, is an independent member whose area of expertise is reporting and audits (as required by law: Section 107 (4); Section 100 (5) AktG) and who has particular knowledge and experience in the application of internal control processes. The members as a whole are also familiar with the sector in which AIXTRON is represented which in itself is already provided for by their years of activity as Board members at AIXTRON. The Audit Committee addresses, in particular, the monitoring of the accounting, the accounting process, Corporate Governance & Compliance, the effectiveness of the internal control system, the risk management system, the internal audit system as well as the final audit. The Audit Committee continues to provide the Supervisory Board plenary with a justified recommendation for the selection of an auditor. It monitors the independence of the auditor and any additional services performed by the auditor. Finally, it issues the mandate to the auditor, identifies the focal points of the audit and handles the fee arrangements. The Committee Chair, Prof. Dr. Wolfgang Blättchen, reports regularly on the work of the Audit Committee to the Supervisory Board.

The Technology Committee was dissolved by the Supervisory Board with effect from February 26, 2018. Until then, it was composed of one chair and two other members. It was concerned, in particular, with aspects of AIXTRON's technical market positioning, issues regarding patents, product planning (product roadmaps) and technology development, potential technology acquisitions and other topics relating to diversification. Following the successful realignment of the technology portfolio, the status reports from the areas of optoelectronics, power electronics and OLEDs as well as the further development of specific products and their critical examination following the dissolution of the committee are discussed in the ordinary plenary meetings of the Supervisory Board.

The Nomination Committee also consists of a chair and two other members. The Committee, chaired by Prof. Dr. Blättchen since May 16, 2018, provides nomination proposals to the Supervisory Board in case of new appointments to the Supervisory or Executive Board. In the fiscal year 2018, the Nomination Committee met three times, on October 10, November 9 and December 12, to discuss issues relating to the succession of Supervisory Board positions.

A Capital Market Committee, consisting of two members, i.e. the Chairman of the Supervisory Board and its Deputy, was formed in 2014 for the purposes of evaluating, supporting and executing projects with capital market relevance. In the fiscal year 2018, there were no meetings of the Capital Market Committee.

The details on the working methods of the Executive Board, the Supervisory Board and committees during the 2018 fiscal year can also be found in the Supervisory Board Report, which is part of this Company's Annual Report and can be downloaded from the AIXTRON website.

Information on the equal representation of men and women as per Section 76 para. 4 and Section 111 para. 5 AktG

As per Sections 76 (4), 111 (5) AktG, the Supervisory Board and the Executive Board of listed companies or companies that are subject to co-determination, must set targets for the percentage of women on the Supervisory Board, Executive Board and on the two management levels below the Executive Board. These requirements are laid out in Sections 4.1.5 and 5.4.1 (3) (DCGK).

AIXTRON endeavors to further increase both the percentage of women and the international composition of its employees and management. The Company's primary commitment is to ensure that the employees possess the required professional and social skills. The availability of qualified female applicants is very limited, particularly due to the still low percentage of women enrolled in technical degree programs.

The Supervisory Board and Executive Board set the following target figures for the share of women to be reached by December 31, 2021:

Level	Target for women's quota	Women's quota as of 31.12.2018	Determined by
Supervisory Board	16.7%	20%	Supervisory Board
Executive Board	0%	0%	Supervisory Board
1. tier management	3%	4%	Executive Board
2. tier management	13%	15%	Executive Board

Since the targets were defined, the size of the Supervisory Board of AIXTRON SE was reduced from six to five members. The five-member Supervisory Board still includes one woman, which equates to a share of 20%.

The targets for the Executive Board corresponded to the current status at the time the resolution was passed.

The proportion of women at the first level below the Executive Board was 4% as of December 31, 2018.

The proportion of women at the second level below the Executive Board was 15% as of December 31, 2018. The Company therefore has reached its target ratio. The Executive Board continues to strive to further increase the proportion of women under the prerequisite of the availability of a sufficient number of qualified candidates.

Diversity concept for Executive Board and Supervisory Board

Executive Board

As provided for by the DCGK, AIXTRON has addressed diversity objectives in corporate governance (Sections 5.1.2 and 5.4.1 DCGK). Due to the structure now present, no changes in the composition are planned, so that the target for the percentage of women on the board has been set at 0%.

Supervisory Board

In 2010, the Supervisory Board stipulated specific objectives for its future composition for the first time. In the 2017 fiscal year, the Supervisory Board adapted a target percentage of women of 16.7% which had been concluded in 2015. The targets for the compositions of the Supervisory Board are shown in detail below:

- With respect to nominations of Supervisory Board members, the Nomination Committee makes sure that the Supervisory Board always consists of members who, individually and collectively as a team, have the knowledge, skills and experience required to perform their tasks properly. In addition, the members should be independent. The Nomination Committee thus contributes to improving the efficiency and transparency of the selection process. As a general rule, the Supervisory Board members shall be elected for the longest possible period in compliance with the Company's Articles of Association.
- AIXTRON is heavily export oriented. Experience in the electronics and semiconductor markets specific to AIXTRON is therefore of great benefit to the Company.

- As a general rule, members of the Supervisory Board should not be older than 70 when retiring from the Supervisory Board. New Supervisory Board members should be available to the Company for at least two election periods.
- The aim should be that the individual Supervisory Board members will have an education or training, qualifications, expertise and international experience that are as diverse as possible so that collectively they will have the necessary knowledge, skills and experience required to perform their tasks properly. It would be beneficial if they possess relevant company and product-oriented experience with an understanding of the business model, the specifics of the industry and the processes in the various departments of business management and administration, accounting, financial auditing, corporate development, capital market, technology, special machine production, markets/sales, the semiconductor market, etc.
- It is believed to be in the best interest of the Company to employ the full potential of well-trained and motivated people from different nationalities and genders. The Supervisory Board thinks that it is appropriate to uphold the target of approximately 20% for the participation of women in the Supervisory Board.
- The Supervisory Board shall include what it considers to be an adequate number of independent members. A Supervisory Board member will not be considered independent, in particular, if he or she has personal or business relations with the Company, its bodies, a controlling shareholder or an enterprise associated with the latter that may cause a substantial and not merely temporary conflict of interest.
- At least half of the Supervisory Board members should be independent.
- At any time, the Supervisory Board shall not have more than two former members of the Executive Board among its members.
- The Supervisory Board members shall not hold any function as a board member in or act as a consultant for any material competitor of the Company.
- According to DCGK, the Supervisory Board must have at least one independent member with expertise in accounting, internal control processes and the auditing of annual financial statements. This Supervisory Board member is therefore also a member of the Audit Committee.
- Given the increased demands on the professionalization of Supervisory Board members and with a view to ensuring that their services will be provided as efficiently as possible, as in previous years, new Supervisory Board members should not hold more than five board memberships in other listed companies or other companies with similar demands.

Additional information on the composition of the Supervisory Board can also be found in the section „Supervisory Board" of this Corporate Governance Report.

The Executive Board and Supervisory Board of AIXTRON SE are convinced that the Supervisory Board fully complies with its own requirements as well as those for appropriate diversity laid out in DCGK and an appropriate number of independent Supervisory Board members.

Corporate Governance Report

Report by the Executive and Supervisory Boards on the Corporate Governance

AIXTRON is committed to observing the principles of transparent and responsible conduct of its business aimed at creating value on a sustainable basis. We, the Executive and Supervisory Boards, seek to further strengthen the trust placed in us by our shareholders, financial markets, customers, business partners, employees and the general public through appropriate management and supervision of the group. We are convinced that good corporate governance is an essential element for the success of our Company.

Both this Corporate Governance Report, prepared in accordance with Section 3.10 DCGK, and the joint Declaration of Conformity by the Executive Board and the Supervisory Board pursuant to Section 161 AktG in May 2018 are published in the Annual Report and on the AIXTRON website in German and English. AIXTRON also retains previous Declarations of Conformity on its website for a period of at least five years.

Isolated deviations

AIXTRON has complied with all the recommendations laid out in DCGK in the past and, with the exception of the deviations declared in the Declaration of Conformity, also fully complied with the DCGK in the 2018 fiscal year.

Our proven internal monitoring and control system, which is continuously kept up to date, supports us in meeting our compliance responsibilities.

The Government Commission on the German Corporate Governance Code made its last changes and additions to the Code in February 2017. The DCGK in the currently applicable version of February 7, 2017 was published by the Federal Ministry of Justice and for Consumer Protection on April 24, 2017 (in addition to the correction made on May 19, 2017).

Competency profile of the Supervisory Board

In addition to the goals set for its composition, the Supervisory Board has also drawn up a competence profile for the entire Board. In view of AIXTRON's business activities and the markets addressed by the Company, the Supervisory Board shall have competencies in the areas of technology, finance/accounting, capital markets, strategy and corporate governance. Furthermore, a grown network of contacts and many years of experience in the respective disciplines are advantageous.

The Supervisory Board regards this competence profile in its current composition as completely fulfilled and will continue to ensure that the competence profile for the entire Supervisory Board will be fulfilled in the future when new members are appointed.

For the purposes of continuing education of the Supervisory Board, its members have taken part in advanced training related to their roles as Supervisory Board members and their other professional activities.

Information on remuneration of the Executive Board as per Section 4.2.5. DCGK

Detailed information on the structure and amount of remuneration paid to the individual Executive Board members in accordance with Section 4.2.5. DCGK and on the remuneration of the members of the Supervisory Board as well as an exact list of the outstanding Board stock options can be found in the remuneration report as part of the group's consolidated management report.

Shareholders and Annual General Meeting

In the 2018 fiscal year, the Annual General Meeting was held in Aachen on May 16, 2018. The invitation to the Annual General Meeting was announced in a timely manner in the German Federal Gazette (Bundesanzeiger) in accordance with the legal requirements, and included the agenda, the proposed resolutions from the Executive and Supervisory Boards as well as the conditions for participation at the Annual General Meeting and the exercising of voting rights. All reports and documentation required by law were available on AIXTRON's website, from the date the Annual General Meeting was announced. Directly following the Annual General Meeting, AIXTRON published the attendance details and the voting results in a press release, as well as on its website.

9 out of 10 agenda points required approval. All proposed resolutions were adopted with vast majorities, with more than 48% of AIXTRON share capital being represented at the Annual General Meeting.

Transparency

To ensure maximum transparency, AIXTRON regularly and promptly informs interested parties such as customers, suppliers, shareholders, shareholder associations, potential investors, financial analysts and the media of the group's business developments. The internet is the primary communication channel used for this purpose.

Reports on the business situation and financial results of AIXTRON SE and the AIXTRON Group are made available in German and/or English, in the form of:

- The Annual Report with the Consolidated Financial Statements, the Group Management Report and the Supervisory Board Report
- The Non-financial Group Report (CSR Report)
- The AIXTRON SE Annual Financial Statements and the related Management Report
- Interim financial reports
- Quarterly conference calls for the press and analysts and respective transcripts
- Company presentations
- Publication of insider information, as well as company and press statements.

The date of the Annual General Meeting or the publication dates of financial reports are compiled in the Company's financial calendar published on the AIXTRON website under Investors/IR Events. This and the above-mentioned reports, speaker notes, presentations, webcasts and press releases are freely available on the AIXTRON's website for a limited period of time.

Accounting and Audit of the Annual Financial Statements

The Consolidated Financial Statements as of March 31, June 30, September 30 and December 31, 2018 were prepared in accordance with the IFRS (International Financial Reporting Standards). The individual financial statements of AIXTRON SE for the 2018 fiscal year were prepared in accordance with the requirements of the German Commercial Code (HGB) and the German Stock Corporation Act (AktG).

The Consolidated Annual Financial Statements and the individual financial statements for AIXTRON SE were audited by the auditor and accepted by the Supervisory Board. The auditor agreed that the Chairman of the Supervisory Board/ Chairman of the Audit Committee would be informed without delay about any reasons for exclusion or exemption and any inaccuracies in the Declaration of Conformity arising in the course of the audit. Such reporting obligations were not triggered in the current reporting year.

Stock Option Plans

AIXTRON has two stock option plans, under which options have been or can be issued for the acquisition of AIXTRON shares to members of the Executive Board, managers and company employees.

No stock options were issued in the reporting year. The options under the 2012 Stock Option Plan can only be exercised after a waiting period of four years and include an absolute performance target. In addition, stock options issued to members of the Executive Board contain an exercise threshold relative to the TecDAX stock index as a comparison parameter. The maximum term of the stock options is ten years.

As of December 31, 2018, tranches 2014 and 2014_I of the 2012 Stock Option Plan and the 2009, 2010 and 2011 tranches of the 2007 Stock Option Plan had outstanding options to acquire 1,338,800 AIXTRON shares to be exercised.

A more detailed description of the individual stock option plans and a summary of all stock option transactions can be found in the annex of the Consolidated Financial Statements under Note 23 “Share-based payment”.

GROUP MANAGEMENT REPORT

AS OF DECEMBER 31, 2018

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., California (USA); AIXTRON Ltd., Cambridge (United Kingdom); APEVA Holdings 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). All companies of the APEVA subgroup are hereinafter also referred to as "APEVA".

The Consolidated Financial Statements of the Company have been prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and in accordance with Section 315e of the German Commercial Code (HGB). 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.

Fundamental Information on the Group

Strategy

As a recognized technology leader in the field of complex deposition processes, AIXTRON focuses on its core competencies. With the development, manufacture, distribution and maintenance of thin film deposition systems for complex materials via the MOCVD process, AIXTRON addresses the growing future markets for **optoelectronics and power electronics.**

In the field of **optoelectronics,** customers use our systems to manufacture lasers for optical data transmission and 3D sensor technology, whether for facial 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 manufacture of special LEDs, such as red, orange and yellow LEDs (ROY) for display applications, high-performance LEDs for automotive lighting or UV LEDs for environmentally friendly disinfection of water. Another growth market seen by analysts is the use of MicroLEDs in head-mounted displays, smart watches, TV sets and video walls.

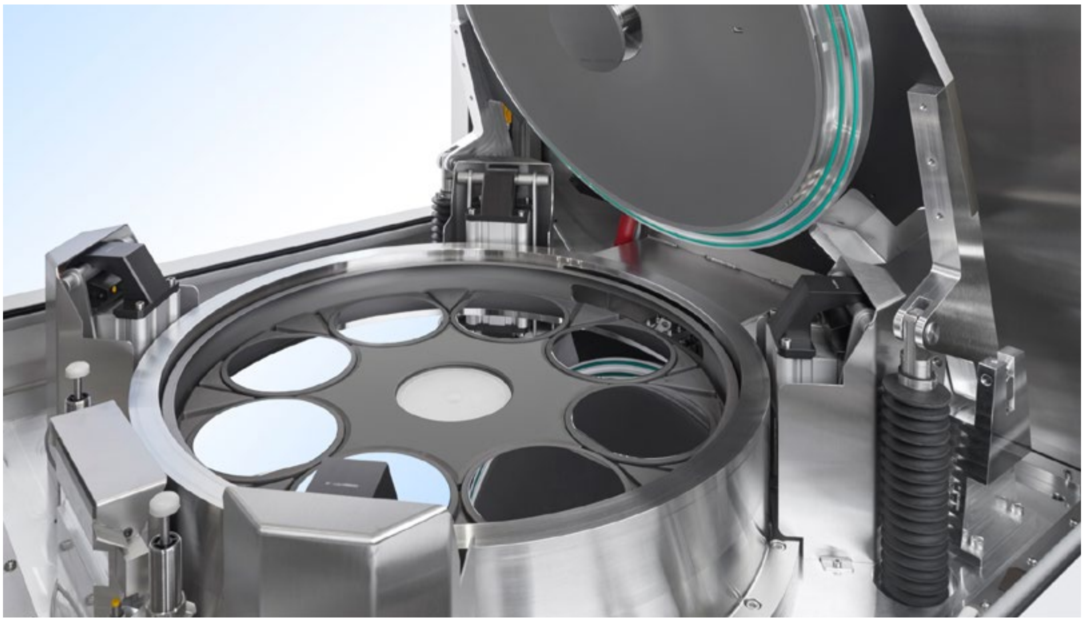
In the area of **power electronics,** AIXTRON's systems are used for instance for the production of gallium nitride (GaN) semiconductor devices ranging from highly efficient and compact smartphone power supply units to servers. There is also a strong increase in interest in manufacturing equipment for our 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).

Technology Portfolio for Complex Material Deposition

AIXTRON focuses on markets where the use of AIXTRON technology allows for clear differentiation and thus creates value added for customers. These include, among other things, achieving a high yield on the wafer by realizing high uniformity of the physical properties of the deposited layers while simultaneously maintaining high throughput, low material and maintenance costs. Given the non-comparable cost structures of local Chinese competitors in purely price-driven markets, particularly in China, AIXTRON does not serve markets where technical differentiation is virtually impossible.

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 configured 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 it 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 a 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. In 2018, AIXTRON SE signed a joint venture agreement with H&IRUJA Co. Ltd. of South Korea to invest in APEVA, the subsidiary responsible for this application area. APEVA is currently evaluating its OVPD-based (Organic Vapor Phase Deposition) technology in collaboration with a major Asian OLED display manufacturer: A Gen1-size prototype has been in use with this customer for more than a year. A larger Gen2 prototype was installed at the customer's plant. Assuming successful qualification of the technology, a customer order for a first production-scale OVPD deposition chamber is expected to be received in 2019.



Our tool for laser production: AIX2800G4-TM configuration 8x6 inch.

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

AIXTRON strives to develop as many growth markets as possible that are interesting in terms of size. The Group's technology portfolio might be supplemented by its own developments or those supported by subsidies, cooperation agreements or targeted acquisitions.

Business Model

AIXTRON's business activities include the development, production and installation of equipment for the deposition of complex semiconductor materials, the development of deposition processes on such equipment, consulting and training, and customer support and service for such equipment. AIXTRON also provides peripheral equipment and services for the operation of its equipment.

AIXTRON supplies deposition equipment for volume production as well as equipment for research and development (R&D) and pre-series production.

The demand for AIXTRON equipment is significantly influenced by requirements for higher energy efficiency, a further increase in data processing and transmission speeds, the use of new 3D sensors or innovative display technologies in consumer electronics, and the need to reduce the cost of existing and future power and optoelectronic devices. The ability of AIXTRON's leading technologies 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 Group's engineers are also working to continuously improve AIXTRON equipment both in terms of resource-saving design and environmentally friendly operation. The energy efficiency and yield of the chemicals used in the operation of the plants is an important element in this strategy. Further information can be found in our Sustainability Report (CSR Report) 2018 on the AIXTRON website at www.aixtron.com/en/investors/publications.

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

Locations

The Company has its registered office in Herzogenrath, Germany, and had a total of 10 facilities worldwide owned or rented as of December 31, 2018:

Facility location	Use	Approx. size (m²)	Lease expiry
Herzogenrath, Germany (owned)	Manufacturing	12,457	-
Herzogenrath, Germany (owned)	Headquarters, R&D, Manufacturing, Engineering	16,000	-
Cambridge, UK (leased)	Manufacturing, Engineering, R&D	2,180	16.09.2029
Cambridge, UK (leased)	Service, Engineering	696	27.06.2020
Santa Clara, CA, USA (leased)	Sales, Service	491	31.08.2022
Hwasung, South Korea (leased)	Sales, Service	1,151	09.08.2020
Shanghai, China (leased)	Sales, Service	594	31.07.2021
Hsinchu, Taiwan (leased)	Sales, Service	568	31.12.2020
Tainan, Taiwan (leased)	Sales, Service	109	27.05.2019
Tokyo, Japan (leased)	Sales, Service	364	30.09.2020

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, lasers, other optoelectronic components or power electronics. PECVD (plasma-enhanced chemical vapour deposition) 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 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 offer equipment capable of processing glass sizes from Gen1 to larger than Gen8.

Our tools are built and tested with greatest care.

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.

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, 2018, the Company had 230 patent families available (December 31, 2017: 201 patent families). For 28 patent families, patent protection was applied and one patent family was acquired for during the reporting period. The patent protection for no patent families was prolonged or expired. Usually, patent protection for inventions is 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 2019 and 2038. AIXTRON continuously conducts a worldwide patent analysis in order to identify and assess changes in the competitive environment at an early stage.

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

Manufacturing and Procurement

AIXTRON's manufacturing activities focus on the assembly, testing and qualification of prototype and customer equipment. The Group 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, a few key components with unique technological features are intentionally purchased from a single source. Assembly and testing are managed and supervised by AIXTRON employees. Final assembly and testing are usually performed at AIXTRON's own production facility with the help of external service providers.

Both of AIXTRON's manufacturing facilities have process-oriented quality management systems certified in accordance with ISO 9001:2015. In 2018, this certification was confirmed without any deviation 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 in the category „Energy Efficiency 4.0" of the German Energy Agency (dena) for an energy-saving project.

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. Further information on AIXTRON's Corporate Social Responsibility (CSR) activities can be found in our Sustainability Report (CSR Report) at www.aixtron.com/en/investors/publications.

Sales and Service

The AIXTRON Group markets and sells its products worldwide through its own direct sales organization as well as 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.

Employees

AIXTRON's success is very much determined by the achievements and motivation of its staff. The employees are recruited based on professional and personal qualifications and experience. The Group uses a variety of communication and recruitment channels to attract new, qualified employees. 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. In addition, competitive remuneration including bonus payments and additional incentives ensure that employees remain loyal to the company in the long term.

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.

Leadership culture in an organization also has a great impact on the success of a company. Therefore, AIXTRON promotes this culture through individual measures in which managers acquire knowledge and qualifications for leadership and team building.

In 2018, the total number of employees increased by 8%, from 581 employees at the end of 2017 (2016: 705) to 628 at December 31, 2018. This is due in particular to new hires as a result of the positive business development. 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 Group's Sustainability Report (CSR Report) which is available on the AIXTRON website under www.aixtron.com/en/investors/publications.

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 manufacturers of components, or epitaxial wafers, 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.

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 and tax law as well as competition regulations.

Due to the nature of AIXTRON's products, it is a legal requirement in Germany and the United Kingdom to apply for an export license (e.g. from the German Federal Office of Economics and Export Control, BAFA, in Germany, from the Department for International Trade in the United Kingdom) to supply certain products to certain countries.

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 fiscal year 2018, there were no changes in the legal framework that had substantial effects on the Group's operating activities or its net assets, financial position and results of operations.

Management and Control

As of December 31, 2018, AIXTRON's Executive Board (Management) consisted of the following two individuals:

Executive Board
(as of December 31, 2018)

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, 2018, AIXTRON's Supervisory Board consisted of the following five individuals:

Supervisory Board
(as of December 31, 2018)

Name	Position	Since	End of Term
Kim Schindelhauer[1)2)3)4)5)]	Chairman of the Supervisory Board	2002	AGM 2019
Prof. Dr. Wolfgang Blättchen[1)3)4)]	Deputy Chairman of the Supervisory Board, Chairman of the Audit Committee, Independent Financial Expert[6)]	1998	AGM 2019
Dr. Andreas Biagosch[1)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

** Until February 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

The term of office of Prof. Dr. Rüdiger von Rosen as a member of the Supervisory Board of AIXTRON SE ended at the end of the Annual General Meeting on May 16, 2018. For reasons of age, Prof. Dr. Rüdiger von Rosen was no longer available for a further term of office. In view of the size and business activities of the Company as well as the competence profile of the Supervisory Board, which continues to ensure the necessary expertise in the areas of technology, finance/ accounting, capital markets as well as strategy and corporate management, the administration proposed to the shareholders to reduce the number of members from six to five. The shareholders almost unanimously approved the proposed resolution with 99.96%.

Information on the collaboration between the Supervisory Board and the Executive Board of AIXTRON SE as well as on 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.

Research and Development (R&D)

In addition to the R&D center at its headquarters in Herzogenrath, AIXTRON also operates a R&D laboratory 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 2018 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 continuously reduce costs e.g. by improving the design of externally procured components. Furthermore, AIXTRON is working on customer-specific development projects and often does research within the framework of publicly funded projects.

The Group'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. AIXTRON is also investing in the OVPD technology of its subsidiary APEVA. At the end of 2017, AIXTRON signed a joint venture agreement with H&IRUJA Co. Ltd. of South Korea to invest in the APEVA Holdings, Ltd. APEVA is currently evaluating its OVPD technology to achieve customer qualification for the production of OLED displays. Further information on APEVA's field of activity can be found in the opportunities report and in the earnings development section of this report. All R&D expenditures are monitored very closely.

For more information regarding R&D expenses from 2016 through 2018, refer to "Development of Results" in this report.

The following projects are examples of our R&D activities in fiscal 2018:

The **„ENHANCE"** project as part of the European Union's „Horizon 2020" program aims to make it possible to generate energy for self-powered automotive sensors. Self-powered vehicle sensors mean that they can operate in wireless mode by using energy from the vehicle's surroundings, such as vibrations, heat or solar energy. The aim is to achieve a stable output voltage with high energy density and to work in vehicles at particulary high temperatures. Ultimately, the project aims to enable the integration of this advanced technology in future cars at reasonable prices. Within the project, AIXTRON is responsible for the modeling and simulation of thin film processes.

In the **„MOCVD 4.1"** project, which is funded by the German Federal Ministry of Economics and Energy (BMWi), AIXTRON's primary goal is to increase the production capability of the technology for applications in power electronics, photovoltaics, nano photonics and sensor technology. This technology targets the energy and eMobility markets. Improvements in technology and effectiveness are needed to meet the international requirements of a versatile, highly flexible key technology with frequently changing customer requirements, processes, products and material systems. This is to be achieved by industry 4.0 approaches, i.e. with networked and automated machine concepts, intelligent software, analyses at the edge of detection limits and precise process control. For the different applications and material systems highly specialized solutions are necessary due to the different physical characteristics. Electronic power converters and CPV technology serve as demonstrators. In an environment close to production, the solution approaches are critically tested and evaluated close to reality.

We are constantly working on the further development of our MOCVD technology.

Report on Economic Position

Global Economy

As a manufacturer of capital goods, AIXTRON may be affected by developments in the general economic environment to the extent that these may affect its own suppliers and manufacturing costs as well as the sales opportunities and thus the willingness of its customers to invest.

The global economic upturn that began in 2016 continued in 2018, but is becoming increasingly unbalanced and may have peaked in some countries. In the industrialized countries in particular, economic momentum slowed in the first half of 2018, having peaked in the second half of 2017. Growth in both the euro zone and the UK fell short of expectations. Growth in world trade and industrial production slowed. The emerging markets showed a mixed picture with positive trends in energy-exporting countries. While financial conditions have tightened in many emerging and developing countries, they remain growth-friendly in the industrialized nations despite sustained interest rate hikes in the US. The risks to further economic growth have become increasingly acute. Key threats include increasing trade tensions, the risk of a move away from a multilateral, rule-based trading system and a sudden tightening of monetary policy and financial conditions. Higher trade barriers would disrupt global supply chains and slow down the spread of new technologies, which would ultimately affect global productivity and prosperity. In its World Economic Outlook of January 2019, the International Monetary Fund (IMF) forecasts global economic growth at the previous year's level of 3.7% for 2018 as a whole, despite weaker development in some economies, particularly in Europe and Asia. It expects growth of 2.4% (2017: 2.3%) in the industrial nations and 4.6% (2017: 4.7%) in the emerging and developing countries. The IMF again revised its global growth forecast for 2019 and 2020 slightly downwards to 3.5% and 3.6%, respectively, partly due to the negative effects of the tariff increases agreed in the USA and China.

As AIXTRON is highly dependent on industry-specific developments, such as the introduction of new applications in consumer electronics or a trend driven increase in semiconductor demand, the general global economic environment did not have a material impact on the Company's business development in 2018.

The development of the U.S. dollar exchange rate in 2018 was largely determined by the Federal Reserve's (Fed's) increasingly restrictive monetary policy, the associated fear of interest rates rising more sharply than expected, and increased trading tensions. All in all, after an initial sideways movement until mid-April, this mixed situation led to a significant strengthening of the US dollar in the further course of the year. The exchange rate moved between the high for the year of 1.251 USD/EUR (1 February) and the low for the year of 1.122 USD/EUR (12 November). At the end of 2018, the exchange rate closed at 1.145 USD/EUR (2017: 1.201 USD/EUR), some 5% below the previous year's level. AIXTRON applied an average USD/EUR exchange rate of 1.18 USD/EUR in 2018 (Q1/2018: 1.22 USD/EUR; Q2/2018: 1.20 USD/EUR; Q3/2018: 1.17 USD/EUR; Q4/2018: 1.14 USD/EUR), which was 4 percent weaker than the prior year average (2017: 1.13 USD/EUR).

AIXTRON Management continues to carefully monitor the developments of the global economy and the financial markets to decide what can potentially be done to mitigate negative exogenous effects on AIXTRON's business. In 2018, no forward exchange contracts or other hedging transactions were entered into. As of December 31, 2018, no currency hedging contracts were in place. The Executive Board reserves the right to carry out hedging transactions in the future, should this be deemed appropriate.

Competitive Positioning

Competitors in the market for MOCVD equipment are Veeco Instruments, Inc. (USA, „Veeco"), Taiyo Nippon Sanso (Japan, „TNS"), Tokyo Electron Ltd. (Japan, „TEL"), Advanced Micro-Fabrication Equipment Inc. (China, „AMEC"), Tang Optoelectronics Equipment Corporation Limited (China, „TOPEC") and LPE (Italy). Other companies are also continuing to try to qualify their own MOCVD systems with their customers. For example, Technology Engine of Science Co. Ltd. (South Korea, „TES"), and HERMES Epitek (Taiwan, „HERMES") or Nuflare Technology Inc. (Japan, „Nuflare") are working on the development of their own MOCVD system solutions and are trying to establish them in the market.

Based on the most recently published studies, Gartner Dataquest (Market Share: Semiconductor Wafer Fab Equipment, Worldwide, April 2018) estimated AIXTRON's market share in the global MOCVD equipment market to be approximately 54% in 2017 (total market size 2017: USD 320 million). The market share of AIXTRON's main competitor Veeco was estimated at approximately 43% during the same period. The market share of the Chinese competitor AMEC, which has significantly increased in the meantime, was not taken into account by this institute. In particular due to higher investments for blue LED applications, as well as the aforementioned higher sales of Chinese competitors in the Chinese LED market, a decline in market share is expected for 2018. Due to the competitive environment in the blue LED market, AIXTRON is increasingly focusing on markets for high-quality products, such as lasers for sensors or optical data communications, wide-band-gap power electronics or other LED applications (ROY LEDs or MicroLEDs).

AIXTRON's APEVA subsidiary 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 smaller companies for equipment used in organic semiconductor applications. While these companies use vacuum thermal evaporation (VTE) and polymer technologies to produce OLEDs, AIXTRON uses the highly innovative organic vapor deposition (OVPD) technology for large area coatings. APEVA believes that these technologies are technically superior to traditional VTE and polymer technologies and enable lower costs for manufacturing OLEDs. APEVA positions itself as an alternative supplier of deposition equipment for the large-scale production of next generation OLEDs as well as for applications such as displays, lighting, solar cells and other OLED applications.

Key Target Markets

LED Market

According to a report published in September 2018 by LEDinside, an independent semiconductor market research company, the market for LEDs that can be produced with AIXTRON's compound semiconductor equipment grew by 16% in 2018 (measured in units). LEDinside forecast market growth in USD terms of 4% from USD 18.0 billion in 2017 to USD 18.8 billion in 2018 due to continuously declining LED prices.

According to LEDinside, the market segment for blue LEDs grew by 4% in 2018 to USD 15.9 billion. AIXTRON has withdrawn from this market segment for general lighting LEDs, which is primarily included in this segment, as this segment is currently mainly served by Chinese companies with very low product costs.

The market segment for red, orange and yellow LEDs (ROY LEDs) grew by 6% to USD 2.6 billion in 2018. According to LEDinside, it is expected to grow further to a size of USD 5.4 billion by 2022. ROY LEDs are used, for example, in large-format displays for sports stadiums, airports and shopping centers as well as in automotive taillights.

According to LEDinside, the greatest growth potential for the future lies in the „MicroLEDs (µLEDs)" segment. In 2018, the market is expected to be USD 0.6 million in size and to grow to USD 3.2 billion by 2022. As this technology is at an early stage of development, the application areas and their requirements for the deposition technology are not yet clearly defined. According to LEDinside, µLEDs will be used in head-mounted displays including Augmented and Virtual Reality (AR/VR), TV sets and video walls by 2020. Long-term applications are also offered by displays in various end applications such as smartphones, tablets, smartwatches and notebooks.

Laser based 3D Sensor Market

In 2017, laser-based 3D sensor functions were integrated for the first time in a smartphone of the leading provider Apple, the iPhone X. New smartphones introduced by Apple in 2018 also feature this technology. In addition, there are various other manufacturers on the market who have published model announcements of smartphones with 3D sensors. In addition to sensors on the display side of the mobile phone for face recognition, analysts expect in the near future the use of additional 3D sensors of even greater range on the back of the mobile phones, with which the environment can be captured three-dimensionally. In addition to applications in consumer electronics, edge-emitting and surface-emitting lasers are increasingly being used in 3D sensor technology in industry and the automotive sector. This increases the demand for these lasers.

Market research firm Yole Développement forecasts a compound annual growth rate (CAGR) of 44% for the 3D sensor market, resulting in a market size of USD 18.5 billion in 2023 (2017: USD 2.1

billion). In 2023, the consumer electronics market is expected to account for 75% of this total, or USD 13.8 billion.

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, cloud computing, 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-based communication to increase to support the growth of data traffic. According to a study by IDC, global data traffic will more than quintuple from 33 Zettabyte (ZB) in 2018 to 175 ZB in 2025.

Wide-Band-Gap (WBG) Gallium Nitride (GaN) and Silicon Carbide (SiC) Power Semiconductor Market

Power semiconductors based on wide-band-gap (WBG) materials, which can be produced with AIXTRON equipment, enable the production of very compact and highly efficient AC-DC and DC-DC converters. They are therefore increasingly used in a wide range of applications from low power (e.g. smartphone power supplies) to high power (e.g. fast charging stations for electric vehicles).

Power components made of silicon carbide (SiC) and gallium nitride (GaN) are gradually gaining market share in the overall market for power components. According to a study by the market research company IHS, the market for semiconductor-based SiC and GaN power devices grew to USD 604 million in 2018 and is expected to reach USD 2.1 billion by 2023.

For the market development beyond 2023, IHS continues to forecast that the market for SiC devices will grow faster than the market for GaN devices and has a higher market potential. According to IHS, this is due in particular to the development of electric cars, which have an average share of 77% of the total SiC market between 2023 and 2027.

GaN semiconductor devices are mainly used in the low and medium power and voltage range, such as in power supplies for smartphones and laptops, in wireless charging, or in power supplies for servers and other IT infrastructure. In the field of high frequency applications GaN forms the basis for the transmission of the radio signal in base stations of the 4G and upcoming 5G telecommunication network.

SiC power components, on the other hand, are particularly suitable for use in higher power and voltage classes. Application areas include converters in photovoltaics and wind energy as well as electric drives. Market analysts at IHS expect a very large market for SiC components, particularly in the field of electro mobility, be it in the area of charging infrastructure or in the area of the electric drive train, in which DC voltage from the battery must be converted into three-phase voltage for the vehicle's electric motor.

OLED Display Market

In recent years, the market for OLED displays has been dominated by its use in mobile phones. In the coming years, AIXTRON expects the use of OLED displays in mobile devices from other manufacturers to increase further. In addition, further growth in the OLED market is expected from the increasing use of OLED televisions and vehicle displays.

Due to the increasing demand for OLED displays, substantial growth potential is expected in this market segment in the medium to long term. For example, analysts at Bank UBS expect the market for OLED TV panels to grow from approximately USD 1.9 billion in 2018 to USD 20.5 billion in 2025. Foldable displays and displays in cars are also important drivers for the OLED market. While the automotive OLED display market, with a 47% compound growth rate (CAGR) between 2019 and 2025, is expected to reach USD 2.2 billion in 2025, the folding display market, with a CAGR of 78%, is expected to reach USD 6.4 billion in 2025. APEVA is working intensively on the production qualification of its OVPD technology at an Asian display manufacturer. The achievement of this qualification is a prerequisite for a possible use in mass production of OLED displays.

Business Development

The economic development in the 2018 financial year was characterized by the profitable operating performance following the successful turnaround of the company. AIXTRON achieved a strong gross margin of 44%, driven by the favorable product mix in the equipment business, growth in the after-sales business and the strengthening of the US dollar over the course of the year. Demand in 2018 was dominated by MOCVD systems for the manufacture of lasers, red, orange and yellow LEDs, and increasingly systems for power electronics applications.

The strong product margin combined with lower operating costs base led to an operating profit of EUR 41.5 million. After the recognition of deferred tax assets amounting to EUR 9.5 million, this resulted in a net profit of EUR 45.9 million. A positive operating cash flow of EUR 13.0 million was achieved.

Our equipment development in the MOCVD segment cleared important hurdles in the course of fiscal year 2018. For our new automated system for the production of SiC components, for example, we were able to convince selected key customers with the results of our laboratory tests to qualify this system for the production of SiC components. To date, we have installed the system at our customers' facilities and entered the test phase with them.

In the OLED segment, we entered into a joint venture with the Korean company IRUJA in fiscal 2018. Our partner makes cash contributions and contributes its automation technology into APEVA. This will help make APEVA a system provider for OLED deposition systems. Furthermore, we made significant progress in the OLED customer project. The Gen2 OLED test system achieved positive test results, so that our customer agreed to the installation of the test system in his production facility. This installation has been completed. After completion of this test phase, we expect to receive a customer order for a large reaction chamber in production format still in 2019.

Overall, the 2018 financial year showed positive results from the realignment initiated in the previous year and concluded this with the agreement of a joint venture for the OLED activities. In order to achieve a sustainable profitable development of the AIXTRON Group, our product portfolio focuses exclusively on product lines with a positive earnings contribution or those that promise a significant return on investment (ROI) in the foreseeable future.

Results of Operations

Development of Orders

(in EUR million)

	2018 Full Year	2017 Full Year	2016 Full Year	2018-2017 in EUR	%
Total order intake incl. spares & services	302.5	263.8	225.1	38.7	15
Equipment order backlog (end of period)	138.3	108.6	78.1	29.7	27

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

In 2018, **total order intake** including spares & services stood at EUR 302.5 million, thus 15% higher than the previous year's figure of EUR 263.8 million, which included around EUR 35,6 million of orders from the ALD/CVD business sold in 2017 (2016: EUR 225.1 million). The positive order intake was mainly due to increased demand for MOCVD systems for the production of lasers, ROY LEDs and GaN power electronics.

At EUR 138.3 million, the **equipment order backlog** as of December 31, 2018 was 27% higher than the order backlog of EUR 102.5 million at the beginning of 2018 (both at the budget rate of 1.20 USD/EUR).

In line with a strict internal process, AIXTRON has defined clear conditions that must be met for the recording of equipment orders in order intake and order backlog. These conditions include the following requirements:

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

In addition, and taking into account current market conditions, the Management Board reserves the right to assess whether the actual realization of each system order is sufficiently likely to occur in a timely manner. If, as a result of this review, Management comes to the conclusion that the realization of an order is not sufficiently likely or involves an unacceptable degree of risk, Management will exclude this specific order or a portion of this order from the recorded order intake and order backlog figures until the risk has decreased to an acceptable level. The order backlog is regularly assessed and - if necessary - adjusted in line with potential execution risks.

Development of Revenues

The development of revenues in fiscal year 2018 was influenced by the increased demand for MOCVD systems for the production of lasers and ROY LEDs in particular, as well as for systems for the production of power electronics from Q3/2018.

Revenues in 2018 amounted to EUR 268.8 million, an increase of 17% over the prior year (2017: EUR 230.4 million; 2016: EUR 196.5 million). Adjusted for the EUR 38.8 million revenue of the ALD/CVD product line sold in 2017, like-for-like revenues were 40% higher than in the prior year. EUR 47.0 million or 18% of revenues were generated from the sale of **spare parts and services** in fiscal year 2018. Revenues were influenced, among others, by increased demand for MOCVD systems, in particular for the production of optoelectronic components including lasers. These accounted for 66%, the largest contribution to equipment revenues, followed by 16% of equipment revenues for the production of LEDs including ROY LEDs and 8% for the production of power electronics.

Revenues by Equipment, Spares & Service

	2018 m EUR	%	2017 m EUR	%	2016 m EUR	%	2018-2017 m EUR	%
Equipment revenues	221.8	82	188.0	82	155.7	79	33.7	18
Service, spare parts, etc.	47.1	18	42.4	18	40.8	21	4.7	11
Total	**268.8**	**100**	**230.4**	**100**	**196.5**	**100**	**38.4**	**17**

At 54%, demand from customers in Asia continued to account for the majority of total revenues in 2018. The stronger contribution from customers outside of Asia were a result of the regional mix of customers addressing the above mentioned demand drivers.

Revenues by Region

	2018 m EUR	%	2017 m EUR	%	2016 m EUR	%	2018-2017 m EUR	%
Asia	144.7	54	172.3	75	128.0	65	-27.6	-16
Europe	69.7	26	29.2	13	30.8	16	40.5	139
Americas	54.4	20	28.9	12	37.7	19	25.6	89
Total	**268.8**	**100**	**230.4**	**100**	**196.5**	**100**	**38.4**	**17**

Development of Results

Cost of Sales, Gross Profit, Gross Margin

Cost of sales developed at a lower rate than revenues year-on-year and, at EUR 151.2 million in fiscal year 2018, were 3% below the value of EUR 156.4 million in fiscal year 2017. This is mainly due to better utilization of manufacturing facilities and a more favorable product mix with better margins. A stronger US Dollar compared to the Euro in the second half of 2018 also contributed positively. Accordingly, the ratio of cost of sales to revenues fell to 56% in 2018. Against this backdrop, the Group's **gross profit** also improved to EUR 117.6 million in 2018, which corresponds to a **gross margin** of 44%.

Development of Results

	2018 Full Year		2017 Full Year		2016 Full Year		2018-2017	
	m EUR	% Rev.	m EUR	% Rev.	m EUR	% Rev.	m EUR	% Rev.
Cost of sales	**151.2**	**56**	**156.4**	**68**	**140.2**	**71**	**-5.2**	**-3**
Gross profit	**117.6**	**44**	**74.0**	**32**	**56.3**	**29**	**43.6**	**59**
Operating expenses	**76.2**	**28**	**69.1**	**30**	**77.7**	**40**	**7.1**	**10**
Selling Expenses	9.4	4	10.2	4	13.8	7	-0.8	-8
General and administration expenses	18.4	7	17.1	7	17.1	9	1.3	7
Research and development costs	52.2	19	68.8	30	53.9	28	-16.6	-24
Other operating expenses (income)	(3.8)	1	(27.0)	12	(7.2)	4	-23.2	-86

Operating Expenses

The ratio of operating expenses to revenues fell to 28% in 2018 (2017: 30%: 2016: 40%). **Operating expenses** increased disproportionally to revenues to EUR 76.2 million year-on-year (2017: EUR 69.1 million; 2016: EUR 77.7 million). This is mainly due to the EUR 23.9 million profit recorded in 2017 within Operating Expenses on the sale of the ALD/CVD product line and to increased variable administration expenses in 2018.

The following individual effects must be taken into account:

Selling, general and administrative expenses increased slightly year-on-year to EUR 27.7 million in fiscal year 2018 (2017: EUR 27.3 million; 2016: EUR 30.9 million). This was mainly due to higher variable administration expenses in 2018. As a percentage of sales, selling, general and administrative expenses decreased to 10% (2017: 12%; 2016: 16%).

Research and development costs decreased by 24% from EUR 68.8m in 2017 to EUR 52.2m in 2018. The 2017 figure includes the costs of discontinued and sold activities. The R&D expenses for the OLED activities in 2018 were at EUR 23.7 million compared to EUR 22.5 million in the previous year.

Key R&D Information

	2018	2017	2016	2018-2017
R&D expenses (million EUR)	52.2	68.8	53.9	-24%
R&D expenses, % of revenues	19	30	27	

The Group's average number of employees decreased from 675 in 2017 to 609 in 2018 while the number of employees as of December 31, 2018 increased to 628 from 581 as of December 31, 2017 (31.12.2016: 705). These changes reflect the sale of the ALD/CVD product line for memory chips at the end of 2017 as well as new hires in 2018 due to the positive business development. At EUR 55.2 million, **personnel expenses** in fiscal year 2018 were below the EUR 60.9 million of 2017.

Net other operating income and expenses in fiscal year 2018 resulted in operating income of EUR 3.8 million compared to an operating income of EUR 27.0 million in 2017 (2016: EUR 7.2 million income). The 2017 figure included EUR 23.9 million from the sale of the ALD/CVD product line. The 2018 income was mainly from **research and development grants** received of EUR 4.7 million (2017: EUR 3.2 million; 2016: EUR 2.1 million).

In 2018, the Group recorded a **net currency loss** of EUR -1.8 million (2017: loss of EUR -0.6 million; 2016: loss of EUR -0.2 million) from transactions in foreign currencies and translation of balance sheet items.

Operating Result (EBIT)

Due to the business and cost development described above, the operating result (EBIT) improved considerably year-on-year to EUR 41.5 million in 2018 (2017: EUR 4.9 million; 2016: EUR -21.4 million). This resulted in an EBIT margin of 15% (2017: 2%; 2016: -11%).

Result before Tax

Result before tax rose significantly from EUR 5.5 million in 2017 (2016: EUR -21.0 million) to EUR 42.5 million in 2018 and included a net financial income of EUR 1.0 million.

Interest and Taxes

	2018 m EUR	2017 m EUR	2016 m EUR	2018-2017 m EUR	%
Net interest income	**1.0**	**0.6**	**0.5**	**0.4**	**67**
Interest income	1.0	0.7	0.6	0.3	43
Interest expense	0.0	-0.1	-0.1	0.1	n.a.
Tax income/expense	**3.4**	**1.0**	**-3.1**	**2.4**	**229**

In fiscal year 2018, the Group recorded positive country-specific **tax income** of EUR 3.4 million (2017: tax income of EUR 1.0 million; 2016: tax expense of EUR 3.1 million). This resulted from a combination of recognition of deferred tax assets of EUR 9.5 million resulting from the transition from past losses to profits in 2018, offset by the tax expense incurred on profits in the period.

Consolidated net income for the year

The AIXTRON Group's consolidated net income for 2018 was EUR 45.9 million or 17% of revenues (2017: EUR 6.5m or 3%; 2016: EUR -24.0m or -12% of revenues).

Net Result AIXTRON SE - Use of Result

The parent company of the AIXTRON Group, AIXTRON SE, generated net income of EUR 35.7 million in fiscal year 2018 in accordance with the accounting provisions of the German Commercial Code (HGB) which resulted in a new accumulated loss at the end of 2018 due to the loss brought forward from 2017 (2017: EUR -113.3 million accumulated loss; 2016: EUR -120.5 million accumulated loss).This accumulated loss of 2018 of EUR -77.6 million is to be carried forward to 2019. No dividend is to be distributed for the 2018 financial year (2017: no dividend; 2016: no dividend).

Capital Resources and Liquidity

Financial Management

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

In the semiconductor equipment industry, it is essential to have sufficient cash and cash equivalents at all times in order to be able to quickly finance possible business expansion. AIXTRON's current cash requirements are generally covered by cash inflows from operating activities. The Company can draw on a strong equity base to secure further corporate financing and to support its indispensable research and development activities. In addition, AIXTRON has the option, if necessary and subject to the approval of the Supervisory Board, to issue financial instruments on the capital market to cover additional capital requirements.

AIXTRON generates a significant portion of its revenues in foreign currencies, i.e. in currencies other than the Euro. The most prevalent foreign currency relevant for AIXTRON is the US dollar. Unfavorable exchange rate developments, particularly between the US Dollar and the Euro, may adversely affect the Group's results of operation. In order to manage foreign exchange rate risks, AIXTRON routinely monitors if and to what extent currency hedging instruments should be used. As of December 31, 2018, no hedging contracts were in place.

Funding

As of December 31, 2018, the **share capital** of AIXTRON SE amounted to EUR 112,927,320 (December 31, 2017: EUR 112,924,730; December 31, 2016: EUR 112,804,105). It is divided into 112,927,320 registered no-par value ordinary shares with a notional value of EUR 1.00 per share. All shares are fully paid.

The Group 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 2018, a total of 2,590 stock options (2017: 120,625; 2016: 83,750 options) were exercised and the same number of ordinary shares were issued. No stock options were issued in 2018 (2017: 0; 2016: 0).

AIXTRON ordinary shares

	Dec 31, 2018	Exercised	Expired/ Forfeited	Allocation	Dec 31, 2017
Stock options to acquire shares	1.338.000	2.590	193.175	0	1.533.765

A detailed description of the various AIXTRON stock option plans as well as a summary of the transactions carried out can be found in Note 23 „Share-based Payment" to the Group Consolidated Financial Statements.

As of December 31, 2018, 2017 and 2016, AIXTRON did not have any **bank borrowings.**

The **equity ratio** as of December 31, 2018 was 80% compared to 81% as of December 31, 2017 (December 31, 2016: 85%).

Return on equity (ROE) in 2018 was 11% (2017: 1.8%; 2016: -6%).

In order to finance future business development, the Group continues to regularly investigate additional funding opportunities.

Investments

The AIXTRON Group's total capital expenditures in 2018 amounted to EUR 9.2 million (2017: EUR 9.7 million; 2016: EUR 5.3 million).

EUR 8.1 million (2017: EUR 8.9 million; 2016: EUR 4.9 million) was invested in property, plant and equipment (including test and laboratory equipment) in 2018. The remaining EUR 1.1 million in 2018 (2017: EUR 0.8 million; 2016: EUR 0.4 million) related to intangible assets including software licenses.

Investments in 2019 are also expected to be mainly for laboratory and test equipment.

The **cash flow from investing** activities shows an increase by EUR 7.5 million in bank deposits with a maturity of at least three months during 2018 (2017: decrease by EUR 19.5 million; 2016: decrease by EUR 52.8 million).

All investments of 2018, 2017 and 2016 were funded out of available cash resources.

Liquidity

Cash and cash equivalents, including **short-term financial investments** (bank deposits, primarily denominated in euros, with a maturity of at least three months, see also „Investments"), increased by EUR 17.2 million or 7% to EUR 263.7 million as of December 31, 2018 (EUR 236.2 million + EUR 27.5 million); December 31, 2017: EUR 246.5 million (EUR 226.5 million + EUR 20.0 million); December 31, 2016: EUR 160.1 million (EUR 120.1 million + EUR 40.0 million).

The increase is mainly attributable to the positive business development during 2018. Cash and cash equivalents of the prior year included temporary prepayments of EUR 11.7 million, which were paid out mainly to suppliers of the ALD/CVD business in Q1/2018, and have reduced cash flow accordingly in 2018.

There are no restrictions on access to the Group's use of cash resources.

Development of Financial Position (Cash Flow)

Cash flow from operating activities amounted to EUR 13.0 million in 2018 (2017: EUR 70.1 million; 2016: EUR -37.7 million). The decrease in operating cash flow in 2018 is mainly due to contractually agreed payments in Q1/2018 from the sale of the ALD/CVD product line for memory chips, which was completed at the year-end 2017, combined with increased working capital.

Cash flow from investing activities was EUR -16.1 million in 2018 (2017: EUR 40.7m; 2016: EUR 43.4 million). This figure includes a net outflow of EUR -7.5 million for a reinvestment in bank deposits with a maturity of more than three months.

Cash flow from financing activities amounted to EUR 10.4 million in 2018 (2017: EUR 1.1 million; 2016: EUR 0.3 million) and resulted mainly from contractually agreed contributions of the joint venture partner in APEVA.

Free cash flow in 2018 was EUR 4.4 million compared to EUR 91.4 million in 2017. The difference is mainly due to payments in 2018 and cash inflows in 2017 from the sale of the ALD/CVD product line in 2017 (2016: EUR -42.9 million.).

Financial Position

The Balance Sheet Total as of December 31, 2018 increased year-on-year to EUR 538.9 million (December 31, 2017: EUR 455.1 million; December 31, 2016: EUR 436.2 million).

Assets

Property, plant and equipment decreased slightly to EUR 63.1 million as of December 31, 2018 from EUR 64.3 million as of December 31, 2017 (December 31, 2016: EUR 74.2 million) mainly due to depreciation of equipment. Most of the reduction in property, plant and equipment during 2017 was related to the sale of the ALD/CVD product line.

Goodwill remained stable at EUR 71.6 million per year-end 2018 compared to EUR 71.2 million as of December 31, 2017 (December 31, 2016: 74.6 million). The difference is related to exchange rate fluctuations. No impairment losses were recognized. Further information on goodwill can be found in Note 12 „Intangible assets" of the Notes to the Consolidated Financial Statements.

Other intangible assets also increased slightly to EUR 2.1 million as of December 31, 2018 (December 31, 2017: EUR 1.8 million; December 31, 2016: EUR 5.4 million).

Inventories increased from EUR 43.0 million as of December 31, 2017 to EUR 73.5 million as of December 31, 2018 (December 31, 2016: EUR 54.2 million), reflecting the order situation as well as precautionary procurement of items that could be affected by BREXIT. Inventory turns at the end of 2018 were 2.1 (2017: 3.6).

Trade receivables increased to EUR 40.1 million as of December 31, 2018 (December 31, 2017: EUR 19.3 million; December 31, 2016: EUR 60.2 million) due to the high level of deliveries towards the end of the year. Receivables represented 36 Days Sales Outstanding (DSO) at the end of 2018 compared with 27 DSO at the end of 2017 (2016: 33 DSO).

Liabilities

Trade payables as of December 31, 2018 were higher at EUR 27.8 million compared to the previous year-end (December 31, 2017: EUR 14.3 million, December 31, 2016: EUR 14.6 million) and thus reflect the increase in inventories in line with the volume of business.

Provisions (current and non-current) reduced from EUR 22.7 million as of December 31, 2017 to EUR 20.8 million as of December 31, 2018 (December 31, 2016: EUR 18.3 million). Payments in 2018 related to the disposal of ALD/CVD in late 2017, and reduced warranty liabilities are the reasons for the reduction.

Contract liabilities for advance payments increased from EUR 30.3 million as of December 31, 2017 to EUR 53.3 million as of December 31, 2018 (December 31, 2016: EUR 26.1 million), reflecting the increased order backlog.

Other current liabilities amounted to EUR 5.0 million. The difference compared to the previous year-end (December 31, 2017: EUR 15.9 million) was mainly due to the settlement of liabilities assumed with the sale of the ALD/CVD product line in 2017 (December 31, 2016: EUR 2.4 million).

Financial Performance Indicators

The Executive Board of AIXTRON SE uses dedicated control systems and procedures to manage the Group and to monitor, analyze and document corporate risks and opportunities. This includes a system of key performance indicators which comprises the relevant product groups.

The most relevant performance indicators for AIXTRON are order intake, revenues, gross margin, EBIT and free 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.

Management Assessment of Company Situation

Following the successful realignment of the Company in 2017, AIXTRON is now focusing on growth markets that are to be served profitably in the long term.

At the same time, AIXTRON continued its development and sales activities, particularly in power electronics and OLED activities.

AIXTRON's equipment revenues in 2018 were EUR 221.8 million, of which EUR 147.0 million (66%) were attributable to MOCVD equipment for the production of components for optoelectronics (i.e. laser, solar panels). Revenues of MOCVD systems for power electronics (GaN/SiC) amounted to EUR 18.2 million (8%). Growth can be expected in both markets in the future due to the increasing use of lasers for optical data transmission and the increasing penetration of laser-based 3D sensors in consumer electronics and modern power electronic components based on materials such as silicon carbide (SiC) or gallium nitride (GaN).

In 2018, revenues generated with LED-related MOCVD equipment, particularly for the production of ROY LEDs, amounted to EUR 36.0 million (16% of equipment revenues). Many of these systems for the production of ROY LEDs ordered in 2018 will be delivered in 2019 and, thus, may lead to lower-margin revenues in the current year.

In addition to the activities mentioned above, there is a focus on costs, margin contributions and return on investment. Furthermore, the Executive Board continuously reviews the product portfolio with a view to changing framework conditions such as time windows for the market launch of new technologies or our assessment of customers' product requirements.

Business development was very positive overall, especially in the optoelectronics segment with the potential for further growth over the next few years both in this segment and in the power electronics segment.

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

The forecast for incoming orders, sales, gross margin, cash flow and the increased forecast for the EBIT result for the 2018 financial year, published in the 2017 Annual Report and specified in more detail in the course of the year, was fully met.

Report on Expected Developments, Opportunities and Risks

Expected Developments

Future Market Environment

The IMF report of January 2019 forecasts a global economic growth of 3.7% in 2019, but also highlights the increased risks in the areas of trade and monetary policy. At this time, AIXTRON does not expect the general global economic environment to have a significant impact on its business development, although the visibility of customers' investment behavior in optoelectronics is limited and the risk of setbacks for the global economy cannot be ruled out.

In a study published in October 2018 (Forecast: Semiconductor Manufacturing Equipment, Worldwide, 3Q18), Gartner Dataquest calculates an increase in investment activity in the semiconductor industry to USD 100 billion in 2018. In the same study, Gartner expects investment activity to decline to USD 90 billion in 2019 and to USD 84 billion in 2020 (Forecast: Semiconductor Manufacturing Equipment, Worldwide, 3Q18). According to Gartner Dataquest, the market size for investment in wafer fab equipment, which includes AIXTRON's deposition equipment, will grow to USD 56 billion in 2018, but will decrease to USD 51 billion in 2019, and USD 47 billion in 2020.

Irrespective of the market development of the semiconductor industry as a whole, the segments on which AIXTRON focuses are determined by megatrends, the development of which will be decisive for the future development and size of AIXTRON's sales markets:

Sales of power semiconductors made of GaN and SiC materials are mainly driven by the need to increase energy efficiency in global IT infrastructure and data centers in order to curb the rapid increase in energy consumption. For example, network supplier Huawei expects the energy consumption of data centers to double every four to six years. It is expected that the use of electric vehicles in the future will lead to an increased use of SiC components both, in the powertrain and in the charging infrastructure in order to better meet the requirements for range and efficiency.

The increasing demand for lasers manufactured on AIXTRON systems is due to the exponentially growing need for fast optical data communications (cloud computing, video streaming, etc.) as well as the adoption of 3D sensing in consumer electronics (smart phones, televisions) and in access control areas. Also, the progress of industrial digitization and a growing number of autonomous vehicles that use 3D sensing technology will lead to increased demand for lasers.

Finally, AIXTRON's future markets will be determined by the adoption of novel displays in TVs, smartphones and notebooks: both MicroLED displays, whose LED pixels can be produced on AIXTRON MOCVD systems, and OLED displays, which can be produced on the OVPD systems of APEVA, are aimed at replacing today's LCD screen technology with innovative, energy-saving alternatives with better brightness, contrast, color fidelity and resolution. The adoption of these novel display technologies will significantly determine the size of AIXTRON's sales markets.

AIXTRON's PECVD technology for the production of carbon nanostructures continues to contribute positively to AIXTRON's revenues through its focus on R&D equipment, although sales volumes are currently comparatively low and will remain at a low level in the short term. There is a medium-term potential for growth in this area, if successfully qualified for industrial applications. Forecasts of the potential market for carbon nanostructure manufacturing equipment are based solely on internal estimates and are therefore not published.

Expected Results of Operations and Financial Position

For 2019, the Company expects a stable to slightly growing revenue development compared to 2018. At the moment, customers are reluctant to make investment decisions in optoelectronics and the further development for the second half of 2019 is difficult to anticipate. Both are also influenced by the currently prevailing critical view of the development of the global economy, in particular due to global trade conflicts and political uncertainties. However, Management remains optimistic about the long-term prospects for the demand for MOCVD systems for the production of lasers for applications in 3D sensor technology or optical data transmission as well as for LED applications. With regard to the demand for systems for the production of power components based on the wide-band-gap materials SiC and GaN (silicon carbide, gallium nitride), Management expects an increasing contribution to sales in 2019 compared to 2018.

Based on the current corporate structure, an assessment of the order situation and the budget exchange rate of 1.20 USD/EUR, Management expects to receive orders for the current financial year in a range between EUR 220 million and EUR 260 million. This range takes into account both, the uncertain development in the second half of the year as well as the difficulty in quantifying the size of any possible OLED order. With revenues in a range between EUR 260 million and EUR 290 million, Management expects to achieve a gross margin of between 35% and 40% and an EBIT of between 8% and 13% of revenues in 2019. Furthermore, Management anticipates a free cash flow between EUR 15 million and EUR 25 million in 2019. Expectations for 2019 fully include the results of AIXTRON's APEVA subsidiary, including all necessary investments to continue the development of OLED activities.

As in previous years, Management assumes that the Company will not require external bank financing in 2019. In addition, the company expects to be able to maintain its solid equity base for the foreseeable future.

Overall Statement on the Future Development

AIXTRON's equipment enables the production of key components for fast optical data transmission (cloud computing, Internet of Things), for next generation fast mobile networks (5G data transmission) or for next generation displays (OLED displays, MicroLED displays). AIXTRON's technology also enables highly efficient power conversion in the area of data centers or consumer electronics power supplies, or electric vehicles (GaN and SiC components). Lasers that can be manufactured on AIXTRON equipment are the key components for 3D sensing in smartphones and increasingly autonomous vehicles.

Based on AIXTRON's proven ability to develop and commercialize innovative deposition equipment for multiple customer markets, Management remains confident in the positive outlook for the Company and its targeted markets.

As of December 31, 2018, AIXTRON did not have any legally binding agreements regarding financial investments, acquisitions or disposals companies or businesses.

Risk Report

Risk Management System

AIXTRON's risk management system is centrally controlled and involves all major organizational units of the AIXTRON Group in the process. The Board Member of AIXTRON SE in charge of the Compliance area is responsible for establishing an effective risk management system and informs the Executive Board and 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 that could negatively affect their achievement. The risk management system supports the Executive Board in the systematic and rational management of identified risks by defining and prioritizing risk-reducing measures.

The periodic quarterly risk inventory is initiated and monitored by the central risk manager. All risk officers from the operating divisions are questioned about current developments of already identified risks and measures to reduce them. 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 officers have access to the system. This ensures that abrupt changes in the risk situation or newly identified risks are reported by the risk officers from the operating divisions and integrated into the risk portfolio.

Internal Control System ICS

The Executive Board is responsible for establishing and maintaining an appropriate internal control system and for evaluating 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. This also include the centrally monitored compliance for Group-wide accounting guidelines and assessment principles within the context of financial reporting.

All subsidiaries included in the consolidated financial statements use a shared SAP system and prepare monthly financial statements which are consolidated in the centrally hosted SAP system. Using direct system access via headquarters, the quarterly financial statements in particular are analyzed in detail on the basis of target/actual deviations. In regular quarterly meetings with the responsible persons, all substantial facts are being reviewed for compliance with IFRS. The Group maintains a multi-level control system for all accounting-relevant transactions and processes, which is reviewed regularly for compliance by the internal audit department. In addition, the Group has ongoing processes in place to identify, evaluate and manage operational risks.

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 market price of the AIXTRON share, 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 currently considers to be immaterial, but which may ultimately also have a significantly adverse effect on the Company. Further information on forward-looking statements can be found in the section „Forward-Looking Statements".

At AIXTRON, all single risks are assessed and classified applying the same method. The probability of occurrence is measured in four categories, as is the potential amount of loss if the risk materializes. The amount of loss relates to the impact on the AIXTRON Group's operating result (EBIT); in individual cases, a possible cash outflow is used as the amount of loss.

Within the risk management system of AIXTRON, risks are identified 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 Information Security (IS) risks
- Staff-related risks
- Legal risks
- Risks relating to patents and intellectual property

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 and that of AIXTRON's customers and suppliers.

The Company counters balance sheet currency risks by means of a centralized management of foreign currencies. In 2018, no forward exchange transactions or other currency hedging transactions were carried out. Hence, there were no exchange rate hedging contracts as of December 31, 2018. However, Management reserves the right to carry out hedging transactions in the future should this be deemed appropriate.

Regardless of exchange rate developments, AIXTRON is exposed to the risk of customer default losses. AIXTRON counters this risk, in particular through advance payments and letters of credit. These instruments are described in more detail in Note 17 „Trade receivables and other current assets“ attached to the 2018 financial statements.

The Company has sufficient cash and cash resources. In order to avoid the risk of a loss of liquidity, AIXTRON reviews the creditworthiness of its banks and, if necessary, will make changes 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 to banks.

There may be a risk that bank guarantees may be called upon by customers to secure advance payments made by customers for systems ordered. These could then represent a liability of AIXTRON to the issuing bank. The probability of such claims being made is extremely low.

AIXTRON's ongoing financial resource requirements are generally provided by cash inflows from operating activities.

AIXTRON's worldwide operations require the taxation of its operating income in different jurisdictions and at different tax rates. AIXTRON is exposed to the general risk of changes in the respective jurisdictions and therefore, monitors developments in this area in close cooperation with external specialists in order to be able to initiate appropriate measures to minimize risk in a timely manner. Furthermore, there is a risk that the tax models chosen by AIXTRON may be reviewed by the authorities and may not be fully accepted, resulting in a negative impact on the results of operations.

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

Market- and competition-related risks

AIXTRON's target markets are globally distributed, with a regional focus on Asia. AIXTRON is therefore exposed to global economic cycles and geopolitical risks, which could have a negative impact on the Group's business. Such risks cannot be influenced by the Company.

AIXTRON regularly monitors and evaluates current global political and economic developments. Nevertheless, the possibility of a negative impact on AIXTRON's supply chains, customers and the AIXTRON Group itself from the United Kingdom's withdrawal from the European Union (BREXIT), the trade dispute between the United States and China, and a possible global economic slowdown cannot be ruled out. For example, AIXTRON has made a precautionary procurement of components that could be affected by the BREXIT. At the time of preparing this report, the Company does not consider these risks to represent a material risk to its business development.

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

The addressed markets are in different market phases. The market for light-emitting diodes is in the mature phase, while the markets for laser-based sensors or high-power lasers as well as for wide-band-gap based power electronics and OLED displays are in a growth phase.

AIXTRON competes with other companies in each of these markets.

There is always the possibility that new competitors may enter the market, or that established competitors may adopt strategies or bring products to market that could adversely affect AIXTRON's business development.

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 exploited optimally.

Technological risks

The technologies offered by AIXTRON are in part enabling new and revolutionary application possibilities. This often means long sales and qualification cycles for the Company's products, as demanding technical or other customer specifications have to be met (sometimes for the first time) before a business transaction can be concluded.

The business of APEVA is for the development and production of systems to deposit organic semiconductor materials, which represents such an innovative technology. The business purpose of APEVA is the development, qualification and production of technology for the manufacture of OLED displays at customers. For that reason, APEVA is cooperating with a large Asian OLED display manufacturer. If it turns out that the production qualification is not achievable within the parameters demanded by the customer, this poses an existential threat for APEVA. As of today, it appears possible that APEVA's operations could be discontinued should that be the case. This could result in a restructuring charge to the AIXTRON Group. Currently, such expenses would not explicitly represent a risk for AIXTRON's continued existence.

At the time of the Management Report preparation, both the management of APEVA and AIXTRON SE are optimistic about achieving the qualification. In addition to the close cooperation with the customer on product development and qualification, the involvement of a partner in APEVA's business in 2018 to reduce financial and operational risk was a key factor for AIXTRON.

Due to development and qualification cycles that often last many years, AIXTRON may develop technologies and products for markets or application areas in which the framework conditions of the sales markets or the strategic planning of potential customers change fundamentally in the course of the development cycle. As a result, planned and forecasted sales may be exposed to the risk of postponement or discontinuation, meaning that development activities may 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 by management as suitable measures 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 chain in terms of high capacity utilization rates. AIXTRON is exposed to risks related to extended delivery times for components and higher purchase prices. If the higher purchase prices cannot be passed on to the customers, the product margins will be affected negatively, and deliveries of ordered systems may be delayed due to longer delivery times. The risk is minimized by forward-looking demand planning, the conclusion of framework agreements, and the qualification of alternative suppliers for critical components and the constant monitoring and controlling of the supply chains.

By having streamlined the product portfolio and focusing on AIXTRON's key markets, as well as continuously identifying and qualifying alternative suppliers, the risk of dependency on single suppliers has been further reduced in the past fiscal year.

Remaining residual risks are mitigated through business interruption insurance, including insurance for damage caused within the supply chain. This includes possible loss of earnings for AIXTRON due to an insured event with a supplier or customer of AIXTRON.

Information technology (IT) and information security (IS) risks

Information is a valuable asset for AIXTRON which needs to be protected adequately. Due to increasing digitization and interconnectedness, a large proportion of information is generated, processed and stored with IT systems. Therefore, the security of information and IT systems are mutually 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 mitigate the risk of unauthorized access, unwanted modification or deletion of information and application systems of value to the Company. The measures taken to ensure the security of important information assets and application systems are regularly reviewed and adjusted if necessary.

Due to the 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 to provide IT services and systems. Reputation and security aspects of the service providers play a key role in their selection.

Staff-related risks

In order to be successful, AIXTRON must recruit, retain and permanently motivate executives and other employees in key positions such as senior management, research & development, technology, sales, marketing and service. Qualified executives, scientists, engineers, technicians and sales staff are critical to AIXTRON's business. The competition for experienced employees can be intense, and there is a risk that AIXTRON will not be able to fill vacancies adequately or quickly enough. AIXTRON uses a variety of communication and recruitment options to recruit new, qualified employees. Competitive compensation, including bonus payments and additional incentives, are intended to ensure that employees remain loyal to the company in the long term.

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 facing regular courts or arbitral tribunals. The outcome of ongoing, pending and/or threatened legal proceedings cannot be predicted with certainty. Court rulings, other decisions by official authorities or settlements can cause substantial costs. Depending on the outcome of the proceedings or the underlying legal system, these costs may not be recoverable and may therefore have a negative impact on the Company's results of operations. At the time of reporting, one legal case is pending for a subsidiary. Management is currently not aware of any other ongoing or imminent legal or arbitration proceedings.

As part of its product and technology development activities, AIXTRON has established measures to identify and protect the Company's newly developed intellectual property and to determine whether the Company uses protected intellectual property. Nevertheless, AIXTRON cannot exclude the possibility of an infringement of third party intellectual property rights or the possibility of being held liable for an alleged infringement of third party intellectual property rights.

Management does not see any significant risk from legal or patent disputes at the time of reporting.

Overall statement on risk situation

Compared to fiscal year 2017, the overall risk situation of AIXTRON SE and its subsidiaries has remained unchanged in 2018. By selling AIXTRON's ALD/CVD product line as well as focusing research and development activities, and involving external partners, the risk portfolio has been streamlined. Thereby, it also improves the exploitation of opportunities and active avoidance of risks in the markets addressed by AIXTRON.

The Executive Board of AIXTRON SE has not identified any risks for the Company that could threaten its continued existence.

The auditor reviewed the risk early warning system as part of the annual audit and confirmed its effectiveness.

Opportunities Report

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

Important market segments in optoelectronics include consumer 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 (ROY), infrared and UV LEDs. An additional growth segment in the area of optoelectronic applications are LED-based, direct-emitting displays. A commercial deployment of MicroLED displays in particular has the potential to generate significant system demand for this demanding application. These display technologies have potential in a diverse number of end applications within 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, telecommunications 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. GaN-based high frequency components will be used for the signal transmission of 4G and future 5G networks. In these fields, 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. Applications 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 customer.

AIXTRON expects the following market trends and **opportunities** in the relevant end user markets could possibly have a positive effect on future business:

Short Term

- Increasing adoption of compound semiconductor-based lasers for 3D sensor systems in mobile devices as well as sensors for infrastructure 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 LEDs and specialty LEDs (esp. red-orange-yellow, UV or IR) in displays and other applications.
- Increasing use of wide-band-gap GaN- or SiC-based components for energy-efficient communication and power management in autos, consumer electronics and mobile devices.
- Progress in the development of OLED displays that require an efficient deposition technology.

Mid- to Long-Term

- Development of new applications based on wide-band-gap materials such as high-frequency chips or system-on-chip architectures with integrated power management.
- Increased use of compound semiconductor-based sensors for autonomous driving.
- Increased development activities for high performance solar cells made of compound semiconductor.
- 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 MicroLED displays.

Information concerning Section 315a of the German Commercial Code (HGB) on takeovers

The share capital of AIXTRON SE as of December 31, 2018 amounted to EUR 112,927,320 (December 31, 2017: EUR 112,924,730; December 31, 2016: EUR 112,804,105) divided into 112,927,320 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.

AIXTRON SE 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

(EUR or number of shares)

	2018 31-Dec	Approved since	Expiry Date	2017 31-Dec	2016 31-Dec	2018-2017
Issued shares	112,927,320	--	--	112,924,730	112,804,105	2,590
Authorized Capital 2018 - Capital increase for cash or contribution in kind with or without existing shareholders' preemptive rights	45,944,218	16.05.2018	15.05.2023	--	--	45,944,218
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	expired	14.05.2014	13.05.2019	45,883,905	45,883,905	-45,883,905
Conditional Capital 2018 - Authorization to potentially issue options and/or converti-ble bonds, profit participation certificates and/or income bonds (or combinations of these instruments) with or without existing shareholders' preemptive rights	25,000,000	16.05.2018	15.05.2023	--	--	25,000,000
Conditional Capital II 2012 - Stock Options Program 2012	4,208,726	16.05.2012	15.05.2017	4,208,726	4,208,726	--
Conditional Capital II 2007 - Stock Options Program 2007	2,686,523	22.05.2007	21.05.2012	2,689,113	2,809,738	-2,590

In accordance with Section 71 (1) no. 8 German Corporations Act, AktG, the Company is authorized until May 15, 2023, with the approval of the Supervisory Board, to purchase its own shares representing an amount of up to EUR 11,292,473 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, by companies dependent on the Company or in which the Company directly or indirectly holds a majority interest, or by third parties appointed 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; Section 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, 2018, about 26% of AIXTRON shares were held by private individuals, most of whom were domiciled in Germany. Around 73% were held by institutional investors. The largest shareholders according to voting rights notifications were T. Rowe Price Group of Oppenheimer Global Opportunities Fund and Deutsche Asset Management, each holding more than 5% of AIXTRON shares at year-end 2018. According to the definition of Deutsche Börse AG, 99% of AIXTRON's share capital was in free float.

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.

In the event of a "change of control", the individual members of the Executive Board are entitled to terminate their employment with three months' notice to the end of the month and to resign from office with effect from the date of termination. Upon termination of employment due to a so-called „change of control" event, all members of the Executive Board receive a severance payment in the amount of the fixed and variable remuneration expected to be owed by the Company for the remaining term of the employment contract, up to a maximum of two years' remuneration. A „change of control" as defined above exists if a third party or a group of third parties, who contractually combine their shares to act as a third party, directly or indirectly holds more than 50% of the Company's share capital. Apart from the aforementioned, there are no other „change of control" clauses.

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 2018 is presented on an individual basis. The remuneration report is based on the recommendations of the German Corporate Governance Code and includes the disclosures required by the German Commercial Code (Handelsgesetzbuch - HGB) and the International Financial Reporting Standards (IFRS). The remuneration report is part of the Group Management Report.

Principles of Management Compensation

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 16, 2018.

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.

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.

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 consolidated net income for the year, but not to exceed EUR 6.5 million in total. The consolidated net income for the year is obtained from the Company's Consolidated Financial Statements (IFRS) certified by the auditor.

The variable bonus per member of the Executive Board – paid out of the above mentioned "accrued internal bonus pool" – amounts to 2.5% of the Group's net income per board member and is 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.

Stock-based Remuneration

In addition, as a variable component with a long-term incentive effect and risk character, the members of the Executive Board may receive a share-based compensation in the form of option rights granted under AIXTRON's stock option plans or AIXTRON shares. Accordingly, Dr. Felix Grawert receives shares in the Company worth EUR 50,000 per fiscal year. The number of shares is determined on the basis of the closing price of the Company's share on the third banking day following the Annual General Meeting to which the annual financial statements and consolidated financial statements for the corresponding financial year are submitted. 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".

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.

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.

Supervisory Board

Remuneration of the Supervisory Board is regulated in Article 17 of AIXTRON's Articles of Association. The currently valid remuneration system was last approved by the Annual General Meeting on 16 May 2018. Accordingly, the annual fixed remuneration for the individual member of the Supervisory Board amounts to EUR 60,000, for the Chairman three times this amount and for the Deputy Chairman one and a half times the remuneration of an ordinary Supervisory Board member.

The Chairman of the Audit Committee receives additional annual remuneration of EUR 20,000.

The members of the Supervisory Board who are only members of the Supervisory Board for part of the fiscal year or who are the Chairman or Deputy Chairman of the Supervisory Board or Audit Committee shall receive one twelfth of the above-mentioned remuneration for each month or part thereof of the corresponding activity on the Supervisory Board.

The Company assumes insurance premiums paid for liability and legal expenses insurance to cover liability risks arising from Supervisory Board activities for the members of the Supervisory Board, as well as the insurance tax payable thereon.

The Supervisory Board members receive no loans from the Company.

Directors & Officers Insurance (D&O)

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 Section 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.

Individual Remuneration Structure

Executive Board Remuneration

The total remuneration of the Executive Board for the fiscal year 2018 amounted to EUR 3,133,032 (2017: EUR 1,355,181; 2016: EUR 1,055,631). The fixed, non-performance-related remuneration of the Executive Board (including non-cash remuneration and pension allowances) for 2018 amounted to a total of EUR 789,932 in 2018 (2017: EUR 1,256,431; 2016: EUR 1,055,631).

For the 2018 financial year, Dr. Felix Grawert and Dr. Bernd Schulte will receive a bonus of EUR 1,146,550 each, which will be paid in 2019 half in cash and half in shares (2017: 3,188 shares). In addition, Dr. Grawert will receive EUR 50,000 (2017: EUR 18,750) of the company's shares per fiscal year. The number of shares is determined on the basis of the closing price of the Company's share on the third banking day following the Annual General Meeting at which the annual financial statements and consolidated financial statements for the 2018 financial year are presented. In the 2018 financial year, 35,053 shares from guaranteed bonuses for the 2015 financial year were transferred to the former CEO Martin Goetzeler. No variable compensation was paid for the financial years 2017 and 2016. No option rights (2017: 0; 2016: 0) were allocated to the Management Board in the past financial year.

Information according to Nr 4.2.5 German Corporate Governance Code (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 2018 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.

	Dr. Felix Grawert				Dr. Bernd Schulte			
	President				President			
	Member of the Executive Board since August 14, 2017				Member of the Executive Board since March 7, 2002			
Benefits granted	**2017**	**2018**	**2018 (min)**	**2018 (max)**	**2017**	**2018**	**2018 (min)**	**2018 (max)**
Fixed compensation	126,258	330,000	330,000	330,000	430,000	430,000	430,000	430,000
Fringe benefits	5,192	16,594	16,594	16,594	12,797	13,338	13,338	13,338
Total	**131,450**	**346,594**	**346,594**	**346,594**	**442,797**	**443,338**	**443,338**	**443,338**
One-year variable compensation	98,750	573,275	0	3,250,000	0	573,275	0	3,250,000
Multi-year variable compensation	0	623,275	50,000	50,000	0	573,275	0	0
Deferral from one-year variable compensation (Retention period: 3 years)	0	623,275	50,000	50,000	0	573,275	0	0
Total	**98,750**	**1,196,550**	**50,000**	**3,300,000**	**0**	**1,146,550**	**0**	**3,250,000**
Service cost	0	0	0	0	0	0	0	0
Total	**230,200**	**1,543,144**	**396,594**	**3,646,594**	**442,797**	**1,589,888**	**443,338**	**3,693,338**

	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			
Benefits granted	**2017**	**2018**	**2018 (min)**	**2018 (max)**	**2017**	**2018**	**2018 (min)**	**2018 (max)**
Fixed compensation	370,000	0	0	0	300,000	0	0	0
Fringe benefits	2,184	0	0	0	10,000	0	0	0
Total	**372,184**	**0**	**0**	**0**	**310,000**	**0**	**0**	**0**
One-year variable compensation	0	0	0	0	0	0	0	0
Multi-year variable compensation	0	0	0	0	0	0	0	0
Deferral from one-year variable compensation (Retention period: 3 years)	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Service cost	0	0	0	0	0	0	0	0
Total	**372,184**	**0**	**0**	**0**	**310,000**	**0**	**0**	**0**

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 with the relevant recommendation of the DCGK - the value of the actual allocation (amount disbursed) in fiscal year 2018.

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.

	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 1st, to August 31, 2017	
Benefits realized	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**
Fixed compensation	126,258	330,000	430,000	430,000	370,000	50,000	300,000	0
Fringe benefits	5,192	16,594	12,797	13,338	2,184	0	10,000	0
Total	**131,450**	**346,594**	**442,797**	**443,338**	**372,184**	**50,000**	**310,000**	**0**
One-year variable compensation	40,000	573,275	0	573,275	0	0	0	0
Multi-year variable compensation	0	0	226,876	0	127,028	458,493	0	0
Deferral from one-year variable compensation	0	0	0	0	0	0	0	0
Stock option program 2007 (Vesting period: 2 years)	0	0	226,876	0	0	0	0	0
Other	0	0	0	0	0	0	0	0
Total	**40,000**	**573,275**	**226,876**	**573,275**	**127,028**	**458,493**	**0**	**0**
Service cost	0	0	0	0	0	0	0	0
Total	**171,450**	**919,869**	**669,673**	**1,016,613**	**499,212**	**508,493**	**310,000**	**0**

Stock Option Programs

As of December 31, 2018, the AIXTRON Executive Board held a total of 154,000 options for the purchase of 154,000 shares of the Company (December 31, 2017: 154,000; December 31, 2016: 283,500). 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 (Shares)
Dr. Felix Grawert	-	0	0	-	-	-	0
Dr. Bernd Schulte	Oct 2014	50,000	50,000	189,000	13.14	Oct 2024	0
	Nov 2010	52,000	52,000	461,240	26.60	Nov 2020	0
	Nov 2009	52,000	52,000	448,240	24.60	Nov 2019	0
	May 2002	0	0	152,625	7.48	May 2017	0
Total		**154,000**	**154,000**				**0**

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 stock option based compensation** of each individual member of the Executive Board are as follows:

in EUR thousands	2018	2017	2016
Dr. Felix Grawert	0	0	0
Dr. Bernd Schulte	34	47	47
Martin Goetzeler	0	-107	47

In fiscal year 2018, no options rights to purchase AIXTRON shares expired (2017: 77,500; 2016: 60,000).

The members of the Management Board in office in 2018 did not exercise any option rights in 2018 (2017: 52,000; 2016: 52,000).

Pension Allowances

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 2018, 2017 and in 2016, payments of EUR 40,000 per year were made to Dr. Bernd Schulte. Dr. Felix Grawert receives a grant of EUR 30,000 in 2018. In

2017, he received pro rata grants of EUR 11,250. Martin Goetzeler received grants of EUR 80,000 in 2016 and EUR 40,000 in 2017. Kim Schindelhauer did not receive any pension allowance for his activity as an interim Member of the Executive Board in 2017. The pension allowance granted is part of the total fixed, non-performance-related remuneration of the Executive Board members.

Supervisory Board Remuneration

In 2018, the total remuneration of the Supervisory Board amounted to EUR 495,000 (2017: EUR 333,250; 2016: EUR 448,750). The division between the individual members of the Supervisory Board for the years 2016 to 2018 is presented in the table below:

Supervisory Board Member	Year	Fixed (EUR)	Variable (EUR)	Attendance Fee (EUR)	Total (EUR)
Kim Schindelhauer[1)2)3)4)5)6)] (Chairman of the Supervisory Board)	2018	180,000	0	0	180,000
	2017	37,500	0	22,000	59,500
	2016	75,000	0	100,000	175,000
Prof. Dr. Wolfgang Blättchen[1)3)4)7)9)] (Deputy Chairman of the Supervisory Board) (Chairman of the Audit Committee) (Independent Financial Expert)	2018	110,000	0	0	110,000
	2017	56,250	0	40,000	96,250
	2016	37,500	0	72,250	109,750
Dr. Andreas Biagosch[1)2)10)]	2018	60,000	0	0	60,000
	2017	25,000	0	6,000	31,000
	2016	25,000	0	8,000	33,000
Prof. Dr. Petra Denk[2)3)] (Chair of the Technology Committee)	2018	60,000	0	0	60,000
	2017	25,000	0	32,000	57,000
	2016	25,000	0	30,000	55,000
Dr. Martin Komischke[8)]	2018	60,000	0	0	60,000
	2017	25,000	0	2,000	27,000
	2016	25,000	0	0	25,000
Prof. Dr. Rüdiger von Rosen[1)3)] (until May 2018; Chairman of the Nomination Committee)	2018	25,000	0	0	25,000
	2017	25,000	0	37,500	62,500
	2016	25,000	0	26,000	51,000
Total	**2018**	**495,000**	**0**	**0**	**495,000**
	2017	**193,750**	**0**	**139,500**	**333,250**
	2016	**212,500**	**0**	**236,250**	**448,750**

1) Member of the Audit Committee
2) Member of the Technology Committee
3) Member of the Nomination Committee
4) Member of the Capital Markets Committee
5) Former Member of the AIXTRON Executive Board
6) Delegated to the Executive Board from March 1 to August 31, 2017 and no member of the Supervisory Board during this time
7) Chairman of the Supervisory Board from March 1 to August 31, 2017
8) Member of the Audit Committee from March 1 to August 31, 2017
9) Member of the Technology Committee from March 1 to August 31, 2017
10) Member of the Capital Markets Committee from March 1 to August 31, 2017

As in previous years, there were no payments made to any Supervisory Board member for advisory services in fiscal year 2018.

Declaration on Corporate Governance according to Section 315d 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/en/investors/corporate-governance.

GROUP CONSOLIDATED FINANCIAL STATEMENTS

Consolidated income statement

in EUR thousands	Note	2018	2017	2016
Revenues	3	268,811	230,382	196,477
Cost of sales	15	151,190	156,391	140,211
Gross profit		**117,621**	**73,991**	**56,266**
Selling expenses		9,393	10,155	13,794
General administration expenses	15	18,350	17,092	17,087
Research and development costs	4, 15	52,204	68,787	53,937
Other operating income	5, 15	6,123	28,608	8,548
Other operating expenses	6	2,331	1,635	1,385
Operating expenses		**76,155**	**69,061**	**77,655**
Operating result		**41,466**	**4,930**	**-21,389**
Finance Income		1,011	692	583
Finance Expense		9	124	147
Net Finance Income	**8**	**1,002**	**568**	**436**
Profit or Loss before taxes		**42,468**	**5,498**	**-20,953**
Taxes on income/loss	9	-3,390	-1,030	3,064
Profit or Loss for the year		**45,858**	**6,528**	**-24,017**
Attributable to:				
Owners of AIXTRON SE		45,862	6,528	-24,017
Non-controlling interests		-4	0	0
Basic earnings or loss per share (EUR)	21	0.41	0.06	-0.22
Diluted earnings or loss per share (EUR)	21	0.41	0.06	-0.22

See accompanying notes to consolidated financial statements.

Consolidated statement of other comprehensive income

in EUR thousands	Note	2018	2017	2016
Profit or Loss for the year		**45,858**	**6,528**	**-24,017**
Items that will not be reclassified subsequently to Profit or Loss:				
Remeasurement of defined benefit obligation		8	-89	-186
Items that may be subsequently reclassified to Profit or Loss:				
Reclassification of currency translation differences		-6	0	-1,568
Currency translation adjustment	20	2,936	-8,679	-2,089
Other comprehensive income/loss		**2,938**	**-8,768**	**-3,843**
Total comprehensive income/loss for the year		**48,796**	**-2,240**	**-27,860**
Attributable to:				
Owners of AIXTRON SE		48,801	-2,240	-27,860
Non-controlling interests		-5	0	0

See accompanying notes to consolidated financial statements.

Consolidated statement of financial position

in EUR thousands	Note	31.12.2018	31.12.2017
Assets			
Property, plant and equipment	11	63,111	64,322
Goodwill	12	71,599	71,229
Other intangible assets	12	2,125	1,763
Other non-current assets	13	430	391
Deferred tax assets	14	12,832	3,588
Total non-current assets		**150,097**	**141,293**
Inventories	16	73,526	43,021
Trade receivables	17	40,137	19,289
Current tax receivables	10	905	171
Other current assets	17	10,489	4,817
Other financial assets	18	27,500	20,000
Cash and cash equivalents	19	236,207	226,526
Total current assets		**388,764**	**313,824**
Total assets		**538,861**	**455,117**
Liabilities and equity			
Share capital	20	111,840	111,802
Additional paid-in capital		374,413	372,912
Accumulated losses		-62,094	-117,289
Currency translation reserve		4,426	1,481
Equity attributable to the owners of AIXTRON SE		**428,585**	**368,906**
Non-controlling interests		1,059	0
Total equity		**429,644**	**368,906**
Other non-current payables		347	345
Other non-current provisions	24	1,477	1,624
Total non-current liabilities		**1,824**	**1,969**
Trade payables	25	27,815	14,265
Contract liabilities for advance payments	26	53,314	30,266
Other current provisions	24	19,339	21,093
Other current liabilities	25	4,955	15,878
Current tax payables	10	1,970	2,740
Total current liabilities		**107,393**	**84,242**
Total liabilities		**109,217**	**86,211**
Total liabilities and equity		**538,861**	**455,117**

See accompanying notes to consolidated financial statements.

Consolidated statement of cash flow

in EUR thousands	Note	2018	2017	2016
Cash flow from operating activities				
Profit / Loss for the year		45,858	6,528	-24,017
Reconciliation between profit/loss and cash flow from operating activities				
Expense from share-based payments		1,531	246	753
Depreciation, amortization and impairment expense		9,941	17,722	13,487
Net result from disposal of property, plant and equipment	5	-480	-23,927	11
Deferred income taxes		-9,301	-1,906	1,485
Change in				
Inventories		-30,422	9,933	16,676
Trade receivables		-20,074	39,495	-34,502
Other assets		-5,234	-205	2,994
Trade payables		13,131	586	4,828
Provisions and other liabilities		-14,376	18,769	-22,102
Non-current liabilities		-151	-2,129	528
Advance payments from customers		22,528	4,974	2,173
Cash flow from operating activities		**12,951**	**70,086**	**-37,686**
Cash flow from investing activities				
Cash flow from acquisitions		0	0	-4,183
Capital expenditures in property, plant and equipment		-8,064	-8,863	-4,912
Capital expenditures in intangible assets		-1,141	-789	-389
Proceeds from disposal of fixed assets		606	6,287	76
Proceeds from disposal of intangible assets		0	24,644	0
Bank deposits with a maturity of more than 90 days	18	-7,500	19,467	52,811
Cash flow from investing activities		**-16,099**	**40,746**	**43,403**
Cash flow from financing activities				
Transactions with non-controlling interests in subsidiaries		10,400	0	0
Proceeds from issue of equity shares		11	1,159	343
Cash flow from financing activities		**10,411**	**1,159**	**343**
Effect of changes in exchange rates on cash and cash equivalents		2,418	-5,496	-2,334
Net change in cash and cash equivalents		9,681	106,495	3,726
Cash and cash equivalents at the beginning of the period		226,526	120,031	116,305
Cash and cash equivalents at the end of the period	19	**236,207**	**226,526**	**120,031**
Interest paid		0	0	-5
Interest received		1,026	710	302
Income taxes paid		-6,844	-1,642	-1,514
Income taxes received		265	661	1,756

See accompanying notes to consolidated financial statements.

Consolidated statement of changes in equity

in EUR thousands	Subscribed capital under IFRS	Additional paid-in capital	Currency translation	Retained Earnings/ Accumulated deficit	Sharehol-ders' equity attributable to the owners of AIXTRON SE	Non-control-ling interests	Total
Balance at January 1, 2016	**111,582**	**372,636**	**12,249**	**-99,962**	**396,505**	**0**	**396,505**
Share based payments		753			753		753
Reclassification of share based payments equity credit		-205		205	0		0
Purchase of treasury shares	-8	8			0		0
Issue of shares	83	260			343		343
Net loss for the year				-24,017	-24,017		-24,017
Other comprehensive income			-2,089	-1,754	-3,843		-3,843
Total comprehensive loss for the year			-2,089	-25,771	-27,860		-27,860
Balance December 31, 2016 and January 1, 2017	**111,657**	**373,452**	**10,160**	**-125,528**	**369,741**	**0**	**369,741**
Share based payments		246			246		246
Reclassification of share based payments equity credit		-1,800		1,800	0		0
Purchase of treasury shares					0		
Issue of shares	145	1,014			1,159		1,159
Net profit for the year				6,528	6,528		6,528
Other comprehensive income			-8,679	-89	-8,768		-8,768
Total comprehensive loss for the year			-8,679	6,439	-2,240		-2,240
Balance December 31, 2017 and January 1, 2018	**111,802**	**372,912**	**1,481**	**-117,289**	**368,906**	**0**	**368,906**
Share based payments		1,531			1,531		1,531
Reclassification of share based payments equity credit					0		0
Transactions with non-controlling interests in subsidiaries		-3	6	9,333	9,336	1,064	10,400
Issue of shares	38	-27			11		11
Net profit for the year				45,862	45,862	-4	45,858
Other comprehensive income			2,939		2,939	-1	2,938
Total comprehensive income for the year			2,939	45,862	48,801	-5	48,796
Balance December 31, 2018	**111,840**	**374,413**	**4,426**	**-62,094**	**428,585**	**1,059**	**429,644**

See accompanying Notes to consolidated financial statements.

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1. General Principles

AIXTRON SE ("Company") is incorporated as a European Company (Societas Europaea) under the laws of the Federal Republic of Germany. The Company is domiciled at Dornkaulstraße 2, 52134 Herzogenrath, Germany. AIXTRON SE is registered in the commercial register of the District Court ("Amtsgericht") of Aachen under HRB 16590.

The consolidated financial statements of AIXTRON SE and its subsidiaries ("AIXTRON" or "Group") have been prepared in accordance with, and fully comply with

- International Financial Reporting Standards (IFRS), and the interpretations as published by the International Accounting Standards Board (IASB); and also
- International Financial Reporting Standards (IFRS) as adopted for use in the European Union; and also
- the requirements of Section 315e of HGB (German Commercial Law).

AIXTRON is a leading provider of deposition equipment to the semiconductor industry. The Group's technology solutions are used by a diverse range of customers worldwide to build advanced components for electronic and optoelectronic applications based on compound, or organic semiconductor materials. Such components are used in fiber optic communication systems, wireless and mobile telephony applications, optical and electronic storage devices, computing signaling and lighting, displays, as well as a range of other leading-edge technologies.

These consolidated financial statements have been prepared by the Executive Board and have been submitted to the Supervisory Board at its meeting held on February 25, 2019 for approval and publication.

2. Significant Accounting Policies

(a) Companies included in consolidation

Companies included in consolidation are AIXTRON SE, and companies controlled by Aixtron SE. The balance sheet date of all consolidated companies is December 31. A list of all consolidated companies is shown in Note 31.

(b) Basis of accounting

The consolidated financial statements are presented in Euro (EUR). The amounts are rounded to the nearest thousand Euro (kEUR).

The financial statements have been prepared on the historical cost basis, except for the revaluation of certain financial instruments.

The preparation of financial statements in conformity with IFRS requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the balance sheet date and the reported amounts of income and expenses during the reported period. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if this revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods. Judgments which have a significant effect on the Group's financial statements are described in Note 36.

The accounting policies set out below have been applied consistently to all periods presented in these consolidated financial statements.

The accounting policies have been applied consistently by each consolidated company.

(c) Bases of consolidation

(i) Subsidiaries

Entities over which AIXTRON SE has control are treated as subsidiaries (see Note 31). Control exists when the Company is exposed, or has the rights, to variable returns from its involvement with the subsidiary and has the ability to affect those returns through its power over the subsidiary. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases.

(ii) Transactions eliminated on consolidation

All intercompany income and expenses, transactions and balances have been eliminated in the consolidation.

(d) Foreign currency

The consolidated financial statements have been prepared in Euro (EUR). In the translation of financial statements of subsidiaries outside the Euro-Zone the local currencies are also the functional currencies of those companies. Assets and liabilities of those companies are translated to EUR at the exchange rate as of the balance sheet date. Revenues and expenses are translated to EUR at average exchange rates for the year or at average exchange rates for the period between their inclusion in the consolidated financial statements and the balance sheet date. Net equity is translated at historical rates. The differences arising on translation are disclosed in the Consolidated Statement of Changes in Equity.

Exchange gains and losses resulting from fluctuations in exchange rates in the case of foreign currency transactions are recognized in the income statement in “Other operating income“ or “Other operating expenses“.

(e) Property, plant and equipment

(i) Acquisition or manufacturing cost

Items of property, plant and equipment are stated at cost, plus ancillary charges such as installation and delivery costs, less accumulated depreciation (see below) and impairment losses (see accounting policy (j)).

Costs of internally generated assets include not only costs of material and personnel, but also a share of directly attributable overhead costs, such as employee benefits, delivery costs, installation, and professional fees.

Where parts of an item of property, plant and equipment have different useful lives, they are depreciated as separate items of property, plant and equipment.

(ii) Subsequent costs

AIXTRON recognizes in the carrying amount of an item of property, plant and equipment the cost of replacing components or enhancement of such an item when that cost is incurred if it is probable that the future economic benefits embodied in the item will flow to the Group and the cost of the item can be measured reliably. All other costs such as repairs and maintenance are expensed as incurred.

(iii) Government grants

Government grants related to the acquisition or manufacture of owned assets are deducted from original cost at the date of capitalization.

(iv) Depreciation

Depreciation is charged on a straight-line basis over the estimated useful lives of each part of an item of property, plant and equipment. Useful lives, depreciation method and residual values of property, plant and equipment are reviewed at the year-end date or more frequently if circumstances arise which are indicative of a change. The estimated useful lives are as follows:

• Buildings	25 - 33 years
• Machinery and equipment	3 - 14 years
• Other plant, factory and office equipment	2 - 14 years

The useful lives of leased assets do not exceed the expected lease periods.

(f) Intangible assets

(i) Goodwill

Business combinations are accounted for by applying the purchase method. In respect of business combinations that have occurred since January 1, 2004, goodwill represents the difference between the fair value of the consideration for the business combination and the fair value of the net identifiable assets acquired.

Goodwill is stated at cost less any accumulated impairment loss. Goodwill is allocated to cash-generating units and is tested annually for impairment (see accounting policy (j)).

(ii) Research and development

Expenditure on research activities, undertaken with the prospect of gaining new technical knowledge and understanding using scientific methods, is recognized as an expense as incurred.

Expenditure on development comprises costs incurred with the purpose of using scientific knowledge technically and commercially. As not all criteria of IAS 38 are met AIXTRON does not capitalize such costs.

(iii) Other intangible assets

Other intangible assets that are acquired are stated at cost less accumulated amortization (see below) and impairment losses (see accounting policy (j)).

Intangible assets acquired through business combinations are stated at their fair value at the date of purchase.

Expenditure on internally generated goodwill, trademarks and patents is expensed as incurred.

(iv) Subsequent expenditure

Subsequent expenditure on capitalized intangible assets is capitalized only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure is expensed as incurred.

(v) Amortization

Amortization is charged on a straight-line basis over the estimated useful lives of intangible assets, except for goodwill. Goodwill has a useful life which is indefinite and is tested annually in respect of its recoverable amount. Other intangible assets are amortized from the date they are available for use. Useful lives and residual values of intangible assets are reviewed at the year-end date or more frequently if circumstances arise which are indicative of a change. The estimated useful lives are as follows:

• Software	2 - 5 years
• Patents and similar rightst	5 - 18 years
• Customer base and product and technology know how	6 - 10 years

(g) Financial Instruments

(i) Financial Assets

Financial assets are classified into the following specific categories:

- at fair value through profit or loss (FVTPL)
- at fair value through other comprehensive income (FVTOCI)
- at amortized cost

The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition.

(ii) Financial assets at FVTPL and FVTOCI

AIXTRON did not have any financial assets in these categories during the periods covered by this report.

(iii) Amortized cost

Financial assets previously classified as held-to-maturity loans and receivables under IAS 39 that were measured at amortized cost continue to be measured at amortized cost under IFRS 9 as they are held within a business model to collect contractual cash flows and these cash flows consist solely of payments of principal and interest on the principal amount outstanding.

(iv) Trade receivables

Trade receivables and other receivables are also measured at amortized cost as they are held within a business model to collect contractual cash flows and these cash flows consist solely of payments of principal and interest on the principal amount outstanding.

(v) Impairment of financial assets

The Group recognizes a loss allowance for expected credit losses (ECL) on trade receivables and contract assets. The amount of expected credit losses is updated at each reporting date to reflect changes in credit risk since initial recognition of the respective financial instrument. The Group always recognizes lifetime ECL for trade receivables, and contract assets. The expected credit losses on these financial assets are estimated using a provision matrix based on the Group's historical credit loss experience, adjusted for factors that are specific to the debtors, general economic conditions and an assessment of both the current as well as the forecast direction of conditions at the reporting date, including time value of money where appropriate.

For all other financial instruments, the Group recognizes lifetime ECL when there has been a significant increase in credit risk since initial recognition. However, if the credit risk on the financial instrument has not increased significantly since initial recognition, the Group measures the loss allowance for that financial instrument at an amount equal to 12-month ECL. Lifetime ECL represents the expected credit losses that will result from all possible default events over the expected life of a financial instrument. In contrast, 12-month ECL represents the portion of lifetime ECL that is expected to result from default events on a financial instrument that are possible within 12 months after the reporting date.

(vi) Cash and cash equivalents

Cash and cash equivalents comprise cash on hand and deposits with banks with a maturity of less than three months at inception.

(vii) Equity instruments

Equity instruments, including share capital, issued by the company are recorded at the proceeds received, net of direct issue costs.

(viii) Financial liabilities

Financial liabilities are classified as either financial liabilities "at FVTPL" or "Amortized Cost".

(ix) Financial liabilities at FVTPL

AIXTRON did not have any financial liabilities in this category during the periods covered by this report.

(x) Amortized Cost

Other financial liabilities, including trade payables, are measured at amortized cost.

(xi) Derivative financial instruments and hedge accounting

The Group's activities expose it to the financial risks of changes in foreign exchange currency rates (see Note 26). AIXTRON may use foreign exchange forward contracts to hedge these exposures. AIXTRON does not use derivative financial instruments for speculative purposes. The use of financial derivatives is governed by policies approved by the Executive Board, which provide written principles on the use of financial derivatives.

AIXTRON did not have any derivative financial instruments in the periods covered by this report.

(h) Inventories

Inventories are stated at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated cost of completion and selling expenses. Cost is determined using weighted average cost.

The cost includes expenditures incurred in acquiring the inventories and bringing them to their existing location and condition. In the case of work in progress and finished goods, cost includes direct material and production cost, as well as an appropriate share of overheads based on normal operating capacity. Scrap and other wasted costs are expensed on a periodic basis either as Cost of Sales or, in the case of beta tools as Research and Development expense.

Allowance for slow moving, excess and obsolete, and otherwise unsaleable inventory is recorded based primarily on either the estimated forecast of product demand and production requirement or historical usage. When the estimated future demand is less than the inventory, AIXTRON writes down such inventories.

(i) Operating Result

Operating result is stated before finance income, finance expense and tax.

(j) Impairment of property, plant and equipment and intangible assets

Goodwill purchased as part of a business acquisition is tested annually for impairment, irrespective of whether there is any indication of impairment. For impairment test purposes, the goodwill is allocated to cash-generating units. Impairment losses are recognized to the extent that the carrying amount exceeds the higher of fair value less cost to sell or value in use of the cash-generating unit.

Property, plant and equipment as well as other intangible assets are tested for impairment, where there is any indication that the asset may be impaired. The Group assesses at the end of each period whether there is an indication that an asset may be impaired. Impairment losses on such assets are recognized, to the extent that the carrying amount exceeds either the fair value that would be obtainable from a sale in an arm's length transaction, or the value in use.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments and the risks associated with the asset.

Impairment losses are reversed if there has been a change in the estimates used to determine the recoverable amount. Reversals are made only to the extent that the carrying amount of the asset does not exceed the carrying amount that would have been determined if no impairment loss had been recognized.

An impairment loss in respect of goodwill is not reversed.

(k) Earnings per share

Basic earnings per share are computed by dividing net income (loss) by the weighted average number of issued common shares for the year. Diluted earnings per share reflect the potential dilution that could occur if options issued under the Company's stock option plans were exercised, unless such exercises had an anti-dilutive effect.

(l) Employee benefits

(i) Defined contribution plans

Obligations for contributions to defined contribution pension plans are recognized as an expense in the income statement as incurred.

(ii) Share-based payment transactions

The stock option programs allows members of the Executive Board, management and employees of the Group to acquire shares of AIXTRON SE. These stock option programs are accounted for according to IFRS 2. The fair value of options granted is recognized as personnel expense with a corresponding increase in additional paid-in capital. The fair value is calculated at grant date and spread over the period during which the employees become unconditionally entitled to the options. The fair value of the options granted is measured using a mathematical model, taking into account the terms and conditions upon which the options were granted. In the calculation of the personnel expense options forfeited are taken into account.

(m) Provisions

A provision is recognized when the Group has a present legal or constructive obligation as a result of a past event, and it is probable that an outflow of economic benefits will be required to settle this obligation. If the effect is material, provisions are determined by discounting the expected future cash flows at a pre-tax interest rate that reflects current market assessments of the time value of money and, where appropriate, the risks associated with the liability.

(i) Warranties

The Group normally offers one or two year warranties on all of its products. Warranty expenses generally include cost of labor, material and related overhead necessary to repair a product free of charge during the warranty period. The specific terms and conditions of those warranties may vary depending on the equipment sold, the terms of the contract and the locations from which they are sold. The Group establishes the costs that may be incurred under its warranty obligations and records a liability in the amount of such costs at the time revenue is recognized. Factors that affect the warranty liability include the historical and anticipated rates of warranty claims and cost per claim.

The Group accrues warranty cost for systems shipped based upon historical experience. The Group periodically assesses the adequacy of its recorded warranty provisions and adjusts the amounts as necessary.

Extended warranties, beyond the normal warranty periods, are treated as maintenance services in accordance with (n) below.

(ii) Onerous contracts

A provision for onerous contracts is recognized when the expected economic benefits to be derived by the Group from a contract are lower than the unavoidable cost of meeting its obligations under the contract. The amount recognized as a provision is determined as the excess of the unavoidable costs of meeting the obligations under the contract over the economic benefits expected to be received. Before making that provision any impairment loss that has occurred on assets dedicated to that contract are recognized. The provision is discounted to present value if the adjustment is material.

(n) Revenue

AIXTRON enters contracts with customers for goods and services, including combinations of goods and services. Contracts are usually for fixed prices and do not offer any unilateral right of return to the customer.

Revenue is generated from the following major sources:

- sale of equipment
- installation of equipment,
- sale and installation of customer specific equipment
- spare parts
- services

Revenue is recognized when the Group satisfies a performance obligation in contracts with its customers by transferring control of goods or services to the customer and it is probable that the economic benefits associated with the transaction will flow to the entity.

The sale of equipment involves acceptance tests at AIXTRON´s production facility. After successful completion of this test, the equipment is dismantled and packaged for shipment. Revenues from the sale of products that have been demonstrated to meet product specification requirements are recognized at a point in time upon shipment to the customer, if full acceptance tests have been successfully completed at the AIXTRON production facility and control has passed to the customer and the customer can benefit from the product either on its own or with other resources that are readily available.

Upon arrival at the customer site the equipment is reassembled and installed, which is a service generally performed by AIXTRON engineers. Revenue relating to the installation of the equipment is recognized at the point in time when AIXTRON has fulfilled its performance obligations under the contract and control of the goods has passed to the customer.

Revenue related to equipment where meeting the product specification requirements has not yet been demonstrated or the customer cannot benefit from the product either on its own or with other resources that are readily available, or where specific rights of return have been negotiated, is recognized only at the point in time when the customer finally accepts the equipment and has control.

Revenue for the sale of equipment which is built for a specific customer and does not have an alternative use is recognized over time based on milestones for the particular contract and the extent to which the company's performance obligations have been satisfied. Typically, these contracts relate either to upgrades to equipment already belonging to the customer, or to customized equipment for a specific customer application.

Revenue related to spares is recognized at the point in time at which the customer obtains control of the goods, generally at the point of delivery.

Revenue related to services is recognized either at the point in time at which the service, such as a repair, is delivered and the customer obtains control of the related item, or for services such as extended warranty, revenue is recognized over time during the period in which it is provided.

AIXTRON gives no general rights of return, discounts, credits or other sales incentives within its terms of sale. However, occasionally some customers of AIXTRON have specifically negotiated terms and conditions of business.

The consideration from contracts which include combinations of different performance obligations such as equipment, spares and services is allocated to each performance obligation in an amount that depicts the amount of consideration to which the company expects to be entitled in exchange for transferring the goods or services to the customer.

The company uses a combination of methods such as an estimated cost plus margin approach, and allocating discounts proportionately to each performance obligation when determining the consideration for each performance obligation.

The portion of equipment revenue related to installation services is determined based on either the fair value of the installation services or, if the Group determines that there may be a risk that the economic benefits of installation services may not flow to the Group, the portion of the contract amount that is due and payable upon completion of the installation.

Fair value of the installation services is determined based on the price that would be received in an orderly transaction in the principal market for such equipment at the measurement date under current market conditions.

(o) Expenses

(i) Cost of sales

Cost of sales includes such direct costs as materials, labor and related production overheads.

(ii) Research and development

Research and development costs are expensed as incurred. Costs of beta tools which do not qualify to be recognized as an asset are expensed as research and development costs.

Project funding received from governments (e.g. state funding) and the European Union is recorded in other operating income, if the research and development costs are incurred and provided that the conditions for the funding have been met.

(iii) Operating lease payments

Payments made under operating leases are recognized as expense on a straight-line basis over the term of the lease.

(p) Other operating income

(i) Government grants

Government grants awarded for project funding are recorded in "Other operating income" if the research and development costs are incurred and provided that the conditions for the funding have been met.

(q) Tax

The tax expense represents the sum of the current and deferred tax.

Deferred tax assets and liabilities are recorded for all temporary differences between tax and commercial balance sheets and for losses brought forward for tax purposes as well as for tax credits of the companies included in consolidation. The deferred taxes are calculated, based on tax rates applicable at the balance sheet date or known to be applicable in the future. Effects of changes in tax rates on the deferred tax assets and liabilities are recognized upon substantively enacted amendments to the law.

A deferred tax asset is recognized only to the extent that it is probable that future taxable profits can be set off against tax credits and tax losses carried forward. Deferred tax assets are reduced to the extent that it is no longer probable that the related tax benefit can be realized. The recoverability of deferred tax assets is reviewed at least annually.

(r) Segment reporting

An operating segment is a component of the Group that is engaged in business activities and whose operating results are reviewed regularly by the Chief Operating Decision Maker, which AIXTRON considers to be its Executive Board, to make decisions about resources to be allocated to the segment and assess its performance and for which discrete financial information is available. AIXTRON has only one reportable segment.

Accounting standards applied in segment reporting are in accordance with the general accounting policies as explained in this section.

(s) Cash flow statement

The cash flow statement is prepared in accordance with IAS 7. Cash flows from operating activities are prepared using the indirect method. Cash inflows and cash outflows from taxes and interest are included in cash flows from operating activities.

(t) Adoption of new and revised standards

New and amended IFRS Standards effective for the current year

Impact of the initial application of IFRS 9 Financial Instruments

In the current year, the Group has applied IFRS 9 Financial Instruments (as revised in July 2014) and the related consequential amendments to other IFRS Standards that are effective for an annual period that begins on or after 1 January 2018. The transition provisions of IFRS 9 allow an entity not to restate comparatives.

The adoption of this standard has not resulted in any reclassification of financial assets. Trade receivables continue to be classified as at amortized cost, as before.

In relation to the impairment of financial assets, IFRS 9 requires an expected credit loss model as opposed to an incurred credit loss model under IAS 39. The expected credit loss model requires the Group to account for expected credit losses and changes in those expected credit losses at each reporting date to reflect changes in credit risk since initial recognition of the financial assets. In other words, it is no longer necessary for a credit event to have occurred before credit losses are recognized.

Specifically, IFRS 9 requires the Group to recognize a loss allowance for expected credit losses on trade receivables and contract assets. The Group has applied IFRS 9's simplified approach for measuring the loss allowance at an amount equal to the lifetime expected credit losses for trade receivables and contract assets.

Items existing at 01/01/2018 that are subject to the impairment provisions of IFRS 9	Note	Credit risk attributes at 01/01/2017 and 01/01/2018	Additional loss allowance on 01/01/2017 kEUR	Additional loss allowance on 01/01/2018 kEUR
Trade and other receivables	17,26	The Group applies the simplified approach and recognizes lifetime expected credit losses for these assets	Nil	Nil
Contract assets	16,26			
Cash and bank deposits	18,19	All bank deposits are assessed to have low credit risk at each reporting date as they are held with reputable banking institutions	Nil	Nil

The consequential amendments to IFRS 7 have resulted in additional disclosures about the Group's exposure to credit risk. These are contained in the notes.

There are no effects on the Income Statement, Statement of Other Comprehensive Income or Statement of Financial Position as a result of the application of IFRS 9.

Impact of the initial application of IFRS 15 Revenue from Contracts with Customers

In the current year, the Group has applied IFRS 15 Revenue from Contracts with Customers (as amended in April 2016) which is effective for an annual period that begins on or after 1 January 2018. IFRS 15 introduced a 5 step approach to revenue recognition. Details of the new requirements and their impact on the Group's consolidated financial statements are described below.

The Group has applied IFRS 15 in accordance with the transitional approach of IFRS 15.C3(a) and has used the practical expedients for contracts in IFRS 15C5, allowing the non-disclosure of various disclosures related to accounting periods ended prior to 1 January 2018.

IFRS 15 uses the terms "contract asset" to describe what the Group has previously been included in and called "receivables (at FVTPL)" or "work in process", and "contract liability" which the Group has previously called "advance payments from customers". The Group has added the IFRS 15 term to its descriptions.

The Group's accounting policies for its revenue streams are disclosed in Note 2 (n) above. Apart from providing more extensive disclosures for the Group's revenue transactions, the application of IFRS 15 has had no significant impact on the financial position or financial performance of the Group because, as stated in the 2017 Annual Report, the Group's previous revenue recognition policies were consistent with IFRS 15.

Impact of the initial application of other amendments to IFRS Standards

IFRS 2 (amendments) Classification and Measurement of Share-based Payment Transactions	The Group has adopted the amendments to IFRS 2 for the first time in the current year. The amendments relate to when a Share-based Payment changes basis between cash-settled and equity-settled scheme. It also applies to certain tax requirements. None of these have any effect on the Group.
Annual Improvements to IFRSs 2014–2016 Cycle	The Group has adopted the amendments to IAS 28 included in the Annual Improvements to IFRSs 2014 - 2016 Cycle for the first time in the current year The amendments relate to venture capital organisations, associates and joint ventures. They have had no impact on the Group

At the date of authorization of these financial statements, the following Standards and Interpretations which have not been applied in these financial statements were in issue but not yet effective

IFRS 16	Leases
IFRS 17	Insurance Contracts
Amendments to IFRS 9	Prepayment Features with Negative Compensation.
Amendments to IAS 28	Long-term Interests in Associates and Joint Ventures
Amendments to IFRS 10 and IAS 28	Sale or Contribution of Assets between an Investor and its Associate of Joint Venture.
Annual Improvements to IFRSs 2015 – 2017 cycle	Amendments to IFRS 3 Business Combinations, IFRS 11 Joint Arrangements, IAS 12 Income Taxes and IAS 23 Borrowing Costs
Amendments to IAS 19	Employee Benefits - Plan Amendment, Curtailment or Settlement
Amendments to IFRS 3	Definition of a business
Amendments to IAS 1 and IAS 8	Definition of material
IFRIC 23	Uncertainty over Income Tax Treatments

AIXTRON does not expect that the adoption of these standards will have a material impact on the financial statements of the Group in future periods. The main effects are expected to be from IFRS16.

Lease accounting changes included in IFRS 16 are applicable for the reporting periods commencing 2019. The group is a lessee of assets and not a lessor. The Group expects the adoption of IFRS 16 will:

- Result in the recognition in the Statement of Financial Position of leased assets of kEUR 3,923 and an equal amount of lease liabilities.
- Separate the payments made under the leases between a principal portion and interest in the Consolidated Cash Flow Statement.

3. Segment Reporting and Revenues

IFRS 8 requires operating segments to be identified on the basis of internal reports about components of the Group that are regularly reviewed by the Executive Board, as chief operating decision maker, in order to allocate resources to the segments and to assess their performance.

In the period 2016 to 2018 the Executive Board regularly reviewed financial information to allocate resources and assess performance only on a consolidated group basis since the various activities of the Group are largely integrated from an operational perspective. In accordance with IFRS, AIXTRON has only one reportable segment.

The company's reportable segment is based around the category of goods and services provided to the semiconductor industry.

Revenues are recognized as disclosed in Note 2 (n).

AIXTRON values the equipment revenue deferred for equipment installation services, using a market based approach, based on observed transactions for all such contracts involving two elements where revenue has been recognized during the financial year. This is level 2 within the fair value hierarchy described in IFRS 13. The fair value of the installation services is taken as the most frequently observed (modal value) percentage of the contract price payable upon completion of the installation service. For the years 2016 to 2018, 10% of the revenue related to equipment is allocated for installation services.

For contracts where equipment revenue is recognized in two elements, the same method is also used to determine the fair value of products delivered, which is taken to be the most frequently observed (modal value) percentage of the contract value payable upon delivery of the equipment to the customer. This is also level 2 in the fair value hierarchy.

Segment revenues and results

in EUR thousands	Note	2018	2017	2016
Equipment revenues		221,758	188,009	155,653
Spares revenues		42,709	38,373	36,664
Services revenues		4,344	4,000	4,160
Revenue from external customers		**268,811**	**230,382**	**196,477**
Inventories recognized as an expense	16	129,130	115,349	104,836
Reversals of inventory provisions	16	-16,361	-6,947	-16,525
Obsolescence and valuation allowance expense for inventories	16	3,018	2,611	0
Personnel expense	7	55,181	60,875	63,136
Depreciation	11	7,631	8,383	12,951
Amortization	12	779	4,518	1,421
Other expenses		52,144	67,905	59,678
Foreign exchange losses	5	1,946	1,366	917
Other operating income	5	-6,123	-28,608	-8,548
Segment profit / loss		**41,466**	**4,930**	**-21,389**
Finance income	8	1,011	692	583
Finance expense	8	-9	-124	-147
Profit or loss before tax		42,468	5,498	-20,953

The accounting policies of the reportable segment are identical to the Group's accounting policies as described in Note 2. Segment profit represents the profit earned by the segment without the allocation of investment revenue, finance costs and income tax expense. This is the measure reported to the Executive Board for the purpose of resource allocation and assessment of performance.

As at the end of each reporting period there are contracts with customers which are only partly completed. These mainly relate to installation of equipment which necessarily takes place after shipment. The contractual transaction price allocated to partially completed or unsatisfied performance obligations at December 31, 2018 is kEUR 18,675. As permitted under the transitional provisions in IFRS 15, the comparative figure for December 31, 2017 is not disclosed.

Management expects that approximately 95% of the transaction price allocated to the unsatisfied contracts as of the year ended 2018 will be recognized as revenue during 2019. The remaining amount will be recognized during the next financial year.

Revenues of kEUR 24,644 were realized in 2018 from the kEUR 30,266 of Contract liabilities for advance payments outstanding at the end of 2017. As permitted under the transitional provisions in IFRS 15, the comparative figure for 2017 is not disclosed.

Segment assets and liabilities

in EUR thousands	31.12.18	31.12.17
Semiconductor equipment segment assets	261,417	204,832
Unallocated assets	277,444	250,285
Total Group assets	**538,861**	**455,117**

in EUR thousands	31.12.18	31.12.17
Semiconductor equipment segment liabilities	107,247	83,471
Unallocated liabilities	1,970	2,740
Total Group liabilities	**109,217**	**86,211**

For the purpose of monitoring segment performance and allocating resources all assets other than tax assets, cash and other financial assets are treated as allocated to the reportable segment. All liabilities are allocated to the reportable segment apart from tax liabilities and post-employment benefit liabilities.

Additions and changes to Property, Plant and Equipment, to Goodwill and to Intangible assets, and the depreciation and amortization expenses are given in Notes 11 and 12. Other non-current assets increased by kEUR 39 during 2018 (decreased by kEUR 153 during 2017).

Information concerning other material items of income and expense for personnel expenses and R&D expenses can be found in Notes 4 and 7.

Geographical Information

The Group's revenue from continuing operations from external customers and information about its non-current assets by geographical location are detailed below. Revenues from external customers are attributed to individual countries based on the country in which it is expected that the products will be used.

in EUR thousands	2018	2017	2016
Asia	144,697	172,338	128,007
Europe	69,710	29,197	30,814
Americas	54,404	28,847	37,656
Total	**268,811**	**230,382**	**196,477**

Sales from external customers attributed to Germany, AIXTRON'S country of domicile, and to other countries which are of material significance are as follows:

in EUR thousands	2018	2017	2016
Germany	17,379	7,487	9,865
USA	54,332	28,731	37,353
Korea	11,866	44,298	27,086
China	72,594	89,848	64,756
Taiwan	43,205	25,717	22,000

Revenues from all countries outside Germany were kEUR 251,432, kEUR 222,895, and kEUR 186,612 for the years 2018, 2017, and 2016 respectively.

In 2018 sales to one customer represented 10.2% of Group revenues, with no other customer exceeding 10%. In 2017 sales to one customer represented 19.3% of Group revenues, with no other customer exceeding 10%. During 2016 sales to one customer represented 14.6% of Group revenue, with no other customer exceeding 10%.

in EUR thousands	31.12.18	31.12.17
Asia	742	780
Europe excluding Germany	10,079	10,211
Germany	116,074	112,478
USA	10,370	14,236
Total Group non current assets	**137,265**	**137,705**

Non-current assets exclude deferred tax assets, financial instruments, post-employment benefit assets and rights arising under insurance contracts.

4. Research and development

Research and development costs, before deducting project funding received, were kEUR 52,204, kEUR 68,787 and kEUR 53,937 for the years ended December 31, 2018, 2017 and 2016 respectively.

After deducting project funding received and not repayable, net expenses for research and development were kEUR 47,476, kEUR 65,622 and kEUR 51,811 for the years ended December 31, 2018, 2017 and 2016 respectively.

5. Other operating income

in EUR thousands	2018	2017	2016
Research and development funding	4,728	3,165	2,126
Income from resolved contract obligations	0	18	4,288
Foreign exchange gains	120	802	734
Gain on disposal of assets	606	23,927	0
Other	669	696	1,400
	6,123	**28,608**	**8,548**

in EUR thousands	2018	2017	2016
Foreign exchange gains	120	802	734
Foreign exchange losses (see Note 6)	-1,946	-1,366	-917
Net foreign exchange gains (losses)	**-1,826**	**-564**	**-183**

The total amount of exchange gains and losses (see also Note 6) recognized in profit or loss was a loss of kEUR 1,826 (2017 loss kEUR 564; 2016 loss kEUR 183).

The gain on disposal of assets of kEUR 606 (2017: 23,927; 2016: nil) relates to the disposal of equipment. In 2017 the gain includes a profit on disposal of the group's ALD CVD assets of kEUR 23,765. AIXTRON received kEUR 60,707 in proceeds for the ALD CVD assets and assumed liabilities to make payments to suppliers of Eugenus Inc. of kEUR 9,689 (see Note 25).

in EUR thousands	2017
Disposal of ALD CVD assets	
Assets over which AIXTRON loses control:	
Property, plant and equipment	5,220
Goodwill	1,682
Inventories	10,394
Other current assets	3,915
Warranty and other liabilities	-561
	20,650
Costs of disposal, taxes and licence payments	6,603
Payments to be made to suppliers on behalf of Eugenus Inc	9,689
	36,942
Proceeds	60,707
Profit on disposal of ALD CVD	**23,765**

6. Other operating expenses

in EUR thousands	2018	2017	2016
Foreign exchange losses	1,946	1,366	917
Losses from the disposal of fixed assets	126	0	29
Additions to allowances for receivables or write-off of receivables	185	110	299
Other	74	159	140
	2,331	**1,635**	**1,385**

7. Personnel expense

in EUR thousands	2018	2017	2016
Payroll	46,508	53,262	54,411
Social insurance contributions	6,154	6,237	6,518
Expense for defined contribution plans	995	1,119	1,454
Share based payments	1,524	257	753
	55,181	**60,875**	**63,136**

Personnel expenses include restructuring costs related to reductions in personnel in a number of the Group's activities. Costs are included in expenses as set out in Note 15.

8. Net finance income

in EUR thousands	2018	2017	2016
Interest income from financial assets			
On financial assets measured at amortised cost	1,011	692	583
Interest expense from financial liabilities			
On financial liabilities not at fair value through profit or loss	-9	-124	-147
Net finance income	**1,002**	**568**	**436**

Interest income relates to interest on cash and cash equivalents, and other financial assets.

9. Income tax expense/benefit

The following table shows income tax expenses and income recognized in the consolidated income statement:

in EUR thousands	2018	2017	2016
Current tax expense (+)/current tax income (-)			
for current year	6,024	1,538	1,562
for prior years	-113	-660	121
Total current tax expense	**5,911**	**878**	**1,683**
Deferred tax expense (+)/deferred tax income (-)			
from temporary differences	-231	351	80
-Income/expense from changes in local tax rate	0	20	0
from reversals and write-downs	-9,070	-2,279	1,301
Total deferred tax income/expense	**-9,301**	**-1,908**	**1,381**
Taxes on income/loss	**-3,390**	**-1,030**	**3,064**

Income/loss before income taxes and income tax expense relate to the following regions:

in EUR thousands	2018	2017	2016
Income/loss before income taxes			
Germany	39,290	-2,066	-25,959
Outside Germany	3,178	7,564	5,006
Total	**42,468**	**5,498**	**-20,953**
Income tax expense/income			
Germany	-4,937	-514	161
Outside Germany	1,547	-516	2,903
Total	**-3,390**	**-1,030**	**3,064**

The Group's effective tax rate is different from the German statutory tax rate of 32.80% (2017 : 32.80%; 2016: 32.80%) which is based on the German corporate income tax rate, including solidarity surcharge, and trade tax.

The following table shows the reconciliation from the expected to the reported tax expense:

in EUR thousands	2018	2017	2016
Net result before taxes	**42,468**	**5,498**	**-20,953**
Income tax expense/benefit (German tax rate)	13,930	1,803	-6,873
Effect from differences to foreign tax rates	-854	-500	-932
Non-deductible expenses	343	569	730
Tax losses not recognized as assets	16	6,215	11,772
Recognition/derecognition of deferred tax assets	-9,164	-1,353	1,301
Effect from changes in local tax rate	0	20	0
Effect of the use of loss carryforwards	-7,765	-4,460	0
Effect of permanent differences	8	2	7
Other	96	-3,326	-2,941
Taxes on income/loss	**-3,390**	**-1,030**	**3,064**
Effective tax rate	**-8.0%**	**-18.7%**	**-14.6%**

10. Current tax receivable and payable

As of December 31, 2018 the current tax receivable and payable, arising because the amount of tax paid in the current or in prior periods was either too high or too low, are kEUR 905 (2017: kEUR 171) and kEUR 1,970 (2017: kEUR 2,740) respectively.

11. Property, plant and equipment

in EUR thousands	Land and buildings	Technical equipment and machinery	Other plant, factory and office equipment	Assets under construction	Total
Cost					
Balance at January 1, 2017	65,434	97,405	18,994	2,918	184,751
Additions	20	6,186	525	2,177	8,908
Disposals	1,425	13,695	2,522	45	17,687
Transfers	62	1,583	75	-1,720	0
Effect of movements in exchange rates	-158	-3,122	-641	-167	-4,088
Balance at December 31, 2017	**63,933**	**88,357**	**16,431**	**3,163**	**171,884**
Balance at January 1, 2018	63,933	88,357	16,431	3,163	171,884
Additions	505	3,603	839	3,118	8,065
Disposals	355	21,647	2,838	301	25,141
Transfers	532	2,211	2	-2,745	0
Effect of movements in exchange rates	-25	-763	-102	-6	-896
Balance at December 31, 2018	**64,590**	**71,761**	**14,332**	**3,229**	**153,912**
Depreciation and impairment losses					
Balance at January 1, 2017	25,780	70,202	14,270	342	110,594
Depreciation charge for the year	1,728	4,126	2,493	36	8,383
Impairments	0	4,821	0	0	4,821
Disposals	1,425	8,685	2,312	0	12,422
Effect of movements in exchange rates	-140	-3,054	-561	-59	-3,814
Balance at December 31, 2017	**25,943**	**67,410**	**13,890**	**319**	**107,562**
Balance at January 1, 2018	25,943	67,410	13,890	319	107,562
Depreciation charge for the year	1,859	4,923	849	0	7,631
Impairments	-100	1,631	0	0	1,531
Disposals	355	21,521	2,838	301	25,015
Effect of movements in exchange rates	-24	-762	-112	-10	-908
Balance at December 31, 2018	**27,323**	**51,681**	**11,789**	**8**	**90,801**
Carrying amounts					
At January 1, 2017	39,654	27,203	4,724	2,576	74,157
At December 31, 2017	**37,990**	**20,947**	**2,541**	**2,844**	**64,322**
At January 1, 2018	37,990	20,947	2,541	2,844	64,322
At December 31, 2018	**37,267**	**20,080**	**2,543**	**3,221**	**63,111**

Depreciation

Depreciation expense amounted to kEUR 7,631 for 2018 and was kEUR 8,383 and kEUR 12,951 for 2017 and 2016 respectively.

During each financial year, of assets useful lives are reviewed in accordance with IAS 16. The effect of the changes in assets useful lives has been to increase the depreciation expense in 2018 by kEUR nil (2017 by kEUR nil; 2016 kEUR 2,283) compared with the depreciation which would have occurred had the asset useful lives remained unchanged. The changes relate to test equipment which is no longer used.

Impairments

In 2018 AIXTRON reviewed the valuation of its Property, Plant and Equipment and wrote down the value of some specific test equipment that no longer had any economic value. An impairment expense of kEUR 1,631 was incurred.

In 2018 AIXTRON reviewed the valuation of its facility in Herzogenrath in Germany and reversed kEUR 100 of a previous impairment charge. The valuation was carried out internally based upon a valuation performed by a professionally qualified valuer and is level 2 in the hierarchy of valuations in IFRS 13. The valuation was based on observable inputs from comparable property transactions.

During the first quarter of 2017 the Group decided to freeze development activities for equipment using III-V materials for Logic Chip production (TFOS). In the second quarter of 2017 AIXTRON also decided to freeze its activities in the field of Thin Film Encapsulation. As a consequence of these decisions an impairment charge of kEUR 4,821 has been recognized for specific technical equipment and machinery related to those activities.

There were no other impairments or reversals of impairments in 2016, 2017 or 2018.

The building is expected to be put on the market for sale in the near future.

Assets under construction

Assets under construction relates mainly to self-built systems for development laboratories in 2018 and 2017.

12. Intangible assets

in EUR thousands	Goodwill	Other intangible assets	Total
Cost			
Balance at January 1, 2017	91,899	47,052	138,951
Acquisitions	0	789	789
Disposals	-1,682	-726	-2,408
Effect of movements in exchange rates	-1,813	-3,123	-4,936
Balance at December 31, 2017	**88,404**	**43,992**	**132,396**
Balance at January 1, 2018	88,404	43,992	132,396
Acquisitions	0	1,141	1,141
Disposals	0	-1,544	-1,544
Effect of movements in exchange rates	99	986	1,085
Balance at December 31, 2018	**88,503**	**44,575**	**133,078**
Amortisation and impairment losses			
Balance at January 1, 2017	17,336	41,626	58,962
Amortisation and impairment charge for the year	0	4,518	4,518
Disposals	0	-726	-726
Effect of movements in exchange rates	-161	-3,189	-3,350
Balance at December 31, 2017	**17,175**	**42,229**	**59,404**
Balance at January 1, 2018	17,175	42,229	59,404
Amortisation charge for the year	0	779	779
Disposals	0	1,544	1,544
Effect of movements in exchange rates	-271	986	715
Balance at December 31, 2018	**16,904**	**42,450**	**59,354**
Carrying amounts			
At January 1, 2017	74,563	5,426	79,989
At December 31, 2017	**71,229**	**1,763**	**72,992**
At January 1, 2018	71,229	1,763	72,992
At December 31, 2018	**71,599**	**2,125**	**73,724**

Amortization and impairment expenses for other intangible assets

Amortization and impairment expenses for other intangible assets are recognized in the income statement as follows:

in EUR thousands	2018 Amortization	2017 Amortization	2016 Amortization	2018 Impairment	2017 Impairment	2016 Impairment
Cost of sales	22	18	18	0	0	0
General administration expenses	738	780	748	0	0	0
Research and development costs	19	414	655	0	3,307	0
	779	**1,212**	**1,421**	**0**	**3,307**	**0**

Intangible assets in the Group's Thin Film Encapsulation activities ceased being used when AIXTRON froze this development during 2017. An impairment charge of 3,307 kEUR was recorded.

In 2018, and 2016, no impairment losses were incurred and no reversals of impairment losses were made.

The amortization expected to be charged on other intangible assets in the future years is as follows:

in EUR thousands	
2019	657
2020	519
2021	299
2022	65
2023	34
After 2023	40

The actual amortization can differ from the expected amortization.

Impairment of goodwill

At the end of 2018 the Group assessed the recoverable amount of goodwill and determined that no impairment loss had to be recognized (2017: kEUR 0; 2016 kEUR 0).

The carrying value of goodwill was kEUR 71,599 (2017 kEUR 71,229; 2016 kEUR 74,563).

As at the end of 2018 the cash generating unit, to which the goodwill has been allocated, is the AIXTRON Group Semiconductor Equipment segment.

The recoverable amount of the cash-generating unit is determined through a fair value less cost to sell calculation. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As AIXTRON has only one cash generating unit (CGU), market capitalization of AIXTRON, adjusted for a control premium, has been used to determine the fair value less cost to sell of the cash generating unit. This is level 2 in the hierarchy of fair value measures set out in IFRS 13.

As at December 31, 2018 the market capitalization of AIXTRON was Euro 940.1 million, based on a share price of Euro 8.41 and issued shares (excluding Treasury Shares) of 111,840,015.

In an orderly selling process costs are incurred. AIXTRON has used 1.5% to account for the costs to sell.

A control premium typically in the range 20%-40% is incurred in the acquisition of a company. A 20% premium has been applied in this test to adjust the market capitalization to the fair value. Market capitalization was also adjusted for net debt and tax assets prior to comparing it to the carrying amount of the CGU. The analysis shows that the fair value less costs to sell of the CGU AIXTRON exceeds its carrying amount and that Goodwill is not impaired.

in EUR thousands	Impairment Test 2018	Impairment Test 2017	Sensitivity Analysis 2018 No control premium
Share price - Euros	8.41	11.58	3.90
Market capitalisation as of December 31	940.1	1,294.7	436.5
Costs to sell in percentage	1.50%	1.50%	1.50%
Costs to sell	-14.1	-19.4	-6.5
Market capitalisation less cost to sell	926.0	1,275.3	430.0
Control premium in percentage	20.00%	20.00%	0.00%
Control premium	185.2	255.1	0.0
Market capitalisation and control premium less cost to sell	1,111.2	1,530.3	430.0
Net debt	-263.7	-246.5	-263.7
Tax assets	-11.8	-1.0	-11.8
Fair value less costs to sell of CGU	835.7	1,282.8	154.5
Carrying amount of the CGU	154.2	121.4	154.2
Surplus of fair value less cost to sell over carrying amount	681.6	1161.4	0.3
Surplus of fair value less cost to sell over carrying amount as a percentage	442%	957%	0%

The fair value less costs to sell, which is the recoverable amount, exceeds the carrying amount of the CGU by 442% (2017 957%).

A sensitivity analysis of the impairment test, in which the control premium is reduced to zero, shows that the carrying amount of the CGU would equal the recoverable amount should the market capitalization of AIXTRON fall by 53.6% (2017 71.1%) to Euro 436.5 million (2017 Euro 374.5 million).

13. Other non-current assets

Other non-current assets totaling kEUR 430 (2017: kEUR 391) include mainly rent deposits for buildings.

14. Deferred tax assets

Recognized deferred tax assets

Recognized deferred tax assets are attributable to the following items:

in EUR thousands	2018	2017
Property, plant and equipment	77	122
Trade receivables	0	49
Inventories	767	884
Employee benefits	137	126
Currency translation	2	-6
Provisions and other liabilities	71	119
Other	12	14
Tax losses	11,766	2,280
Total	**12,832**	**3,588**

Deferred tax assets are recognized at the level of individual consolidated companies in which a loss was realized in the current or preceding financial year, only to the extent that realization in future periods is probable. The nature of the evidence used in assessing the probability of realization includes forecasts, budgets and the recent profitability of the relevant entity. The carrying amount of deferred tax assets for entities which have made a loss in either the current or preceding year was kEUR 10,036 (2017: kEUR 258).

Deferred taxes for tax losses in the amount of kEUR 158,863 (2017: kEUR 169,731) and on deductible temporary differences in the amount of kEUR 4,175 (2017: kEUR 23,659) were not recognized. Tax losses in the amount of kEUR 140,669 can be used indefinitely (2017: kEUR 151,685), kEUR nil expire by 2023 (2017: kEUR nil, by 2022) and kEUR 22,369 expire after 2023 (2017: kEUR 18,046 after 2022).

The following table shows the development of temporary differences during the financial year:

in EUR thousands	Balance at January 1, 2018	Recognised in income statement	Directly recognised in Other Comprehensive Income	Balance at December 31, 2018
Property, plant and equipment	122	-45	0	77
Trade receivables	49	-49	0	0
Inventories	884	-117	0	767
Employee benefits	126	11	0	137
Currency translation	-6	65	-57	2
Provisions and other liabilities	119	-48	0	71
Other	14	-2	0	12
Tax losses	2,280	9,486	0	11,766
	3,588	**9,301**	**-57**	**12,832**

in EUR thousands	Balance at January 1, 2017	Recognised in income statement	Directly recognised in Other Comprehensive Income	Balance at December 31, 2017
Property, plant and equipment	191	-69	0	122
Trade receivables	50	-1	0	49
Inventories	1,309	-425	0	884
Employee benefits	125	1	0	126
Currency translation	-13	144	-137	-6
Provisions and other liabilities	60	59	0	119
Other	12	2	0	14
Tax losses	83	2,197	0	2,280
	1,817	**1,908**	**-137**	**3,588**

15. Restructuring costs

in EUR thousands	2018	2017	2016
Cost of sales	0	2,338	696
General administration expenses	644	2,214	131
Research and development costs	0	10,642	0
	644	**15,194**	**827**

In 2018 restructuring expense of kEUR 644 was incurred for legal and consulting fees related to the reorganization of the Group's activities.

During 2017 the Group froze its activities in Thin Film Encapsulation and in development of equipment for TFOS applications. The activities of its OVPD development team in Germany were moved into a separate entity, APEVA SE, to facilitate a potential Joint Venture with an external partner for future activities in this field. AIXTRON SE retains all intellectual property rights in the Group's OVPD activities to date. The separation and sale of assets of AIXTRON's ALD CVD activities also occurred in 2017.

The costs incurred in restructuring activities mainly relate to the freezing of the TFE and TFOS activities, but also include costs of restructuring the OVPD activity and some severance and similar costs related to ALD CVD and are shown in the table above.

Included in the research and development costs is kEUR 3,307 of impairment of intangible assets and kEUR 4,821 of impairment of technical equipment and machinery. Other costs include inventory write downs and contractual settlements, some severance payments, consultancy, legal and IT costs.

The profit on disposal of ALD CVD assets is shown in Note 5.

Restructuring costs in 2016 are mainly severance costs related to reductions in personnel in a number of the Group's activities.

16. Inventories

in EUR thousands	Note	2018	2017
Raw materials and supplies		28,755	16,017
Work in process		37,734	21,525
Contract balances - work in process		3,062	5,479
Inventories at customers' locations		3,975	0
		73,526	**43,021**

in EUR thousands	Note	2018	2017
Inventories recognised as an expense during the period	3	129,130	115,349
Reversals of write-downs recognised during the year	3	-16,361	-6,947
		112,769	**108,402**
Write-down of inventories during the year	3	3,018	2,611
Inventories measured at net realisable value		1,093	4,316

The reversal of write-downs recognized during the year in both 2018 and 2017 mainly relates to inventories which had been written down to their net realizable value and subsequently were sold.

Contract balances - work in process relates to work performed at the customers' site, typically to install equipment or to upgrade customers' existing equipment. Variations in the level of contract balances - work in process in the year have occurred because of the normal variations in the stage of completion of the work on individual contracts. Completion of installation is the final contractual deliverable in most customer contracts which typically allows any remaining payments to be received from the customer.

17. Trade receivables and other current assets

in EUR thousands	2018	2017
Trade receivables	38,647	19,021
Contract assets receivable	1,704	507
Allowances for doubtful accounts	-214	-239
Trade receivables - net	**40,137**	**19,289**
Prepaid expenses	740	501
Reimbursement of research and development costs	1,190	783
Advance payments to suppliers	113	86
VAT recoverable	2,374	2,706
Non-controlling interests in subsidiaries	5,000	0
Other assets	1,072	741
Total other current assets	**10,489**	**4,817**
Total trade receivables and other current assets	**50,626**	**24,106**

"Non-controlling interests in subsidiaries" kEUR 5,000 (2017 kEUR Nil) is a contractual amount receivable in 2019 in respect of a shareholding in APEVA Holdings Ltd.

Additions to allowances against trade receivables are included in other operating expenses, releases of allowances are included in other operating income. Allowances against receivables developed as follows:

in EUR thousands	2018	2017
Allowance at January 1	239	1,293
Translation adjustments	8	-35
Impairment losses recognised	181	256
Used	-179	0
Impairment losses reversed	-35	-1,275
Allowance at December 31	**214**	**239**

Ageing of past due but not impaired receivables

in EUR thousands	2018	2017
1-90 days past due	8,252	2,388
More than 90 days past due	808	462

Due to the worldwide spread of risks, there is a diversification of the credit risk for trade receivables. Generally, the Group demands no securities for financial assets. In accordance with usual business practice for capital equipment however, the Group mitigates its exposure to credit risk by requiring payment by irrevocable letters of credit and substantial payments in advance from most customers as conditions of contracts for sale of major items of equipment. At the balance sheet date, net trade receivables of kEUR 40,137 represent the equivalent of 36 days sales outstanding (2017; kEUR 19,289, 33 DSO).

At the balance sheet date two customers accounted for 16% and 12% of trade receivables respectively. In 2017 no single customer accounted for more than 10% of trade receivables. In 2016 one customer accounted for 17% of net trade receivables. In determining concentrations of credit risk the Group defines counterparties as having similar characteristics if they are connected entities.

Included in the Group's trade receivable balance are debtors with a carrying amount of kEUR 9,060 (2017: kEUR 2,850) which are past due at the reporting date for which the Group has not provided. As there has not been a significant change in credit quality, and although the Group has no collateral, the amounts are considered recoverable.

The Group measures the loss allowance for trade receivables at an amount equal to the lifetime expected credit loss. Based on its experience, the Company uses a general provision rate for lifetime expected credit loss of 0%, adjusted for factors which are specific to the debtors, general economic conditions and an assessment of both the current as well as the forecast direction of conditions at the reporting date. In determining receivables which may be individually impaired the Group has taken into account the likelihood of recoverability based on the past due nature of certain receivables, and our assessment of the ability of all counter-parties to perform their obligations.

18. Other financial assets

Other financial assets of kEUR 27,500 (2017: kEUR 20,000) are fixed deposits with banks with a maturity of more than three months at inception of the contracts.

The maturities at inception of the deposits were as below.

in EUR thousands	2018	2017
Maturity up to 180 days	27,500	0
Maturity 181 days to 365 days	0	20,000
	27,500	**20,000**

19. Cash and cash equivalents

in EUR thousands	2018	2017
Cash-in-hand	4	2
Bank balances	236,203	226,524
Cash and Cash equivalents	**236,207**	**226,526**

Cash and cash equivalents comprise short-term bank deposits with an original maturity of 3 months or less. The carrying amount and fair value are the same.

Bank balances included kEUR 0 given as security (2017: kEUR 0) at December 31, 2018.

20. Shareholders' Equity

in EUR	2018	2017
January 1	112,924,730	112,804,105
Shares issued during the year	2,590	120,625
Issued and fully paid capital at December 31, including Treasury Shares	112,927,320	112,924,730
Treasury shares	-1,087,305	-1,122,358
Issued and fully paid share capital at December 31 under IFRS	111,840,015	111,802,372

The share capital of the Company consists of no-par value shares and was fully paid-up during 2018 and 2017. Each share represents a portion of the share capital in the amount of EUR 1.00.

Authorized share capital

Authorized share capital, including issued capital, amounted to EUR 201,284,934 (2017: EUR 176,224,621).

Additional paid-in capital

Additional paid-in capital mainly includes the premium on increases of subscribed capital as well as cumulative expense for share-based payments.

In 2018 and 2017 all shares issued were the results of stock options being exercised.

The Group regards its shareholders' equity as capital for the purpose of managing capital. Changes in Shareholders' equity are shown in the Consolidated Statement of Changes in Equity. The Group considers its capital resources to be adequate.

Income and expenses recognized in other comprehensive income

Income and expenses recognized in other comprehensive income are shown in the Statement of Other Comprehensive Income

The foreign currency translation adjustment comprises all foreign exchange differences arising from the translation of the financial statements of foreign subsidiaries whose functional currency is not the Euro.

During 2018 an income of kEUR 8 (2017 expense kEUR 89; 2016 expense kEUR 186) was recorded from the remeasurement of defined benefit obligations.

In 2018, following the increase in Non-controlling Interests in Subsidiaries, a reclassification of kEUR 6 of currency translation adjustment was made through Other Comprehensive Income reflecting the change.

As a result of the liquidation in 2016 of AIXTRON AB, a currency translation adjustment of kEUR 1,568 was reclassified through Other Comprehensive Income from currency reserves against the Group's retained earnings.

21. Earnings per share

Basic earnings per share

The calculation of the basic earnings/loss per share is based on the weighted-average number of common shares outstanding during the reporting period.

Diluted earnings per share

The calculation of the diluted earnings/loss per share is based on the weighted-average number of outstanding common shares and of common shares with a possible dilutive effect resulting from share options being exercised under the share option plan.

	2018	2017	2016
Earnings per share			
Net profit/loss attributable to the shareholders of AIXTRON SE in kEUR	45,862	6,528	-24,017
Weighted average number of common shares and ADS for the purpose of Earnings/Loss Per Share	111,824,022	111,688,876	111,618,282
Basic earnings/loss per share (EUR)	**0.41**	**0.06**	**-0.22**
Earnings/loss per share (diluted)			
Net profit/loss attributable to the shareholders of AIXTRON SE in kEUR	45,862	6,528	-24,017
Weighted average number of common shares and ADS for the purpose of Earnings/Loss Per Share	111,824,022	111,690,533	111,583,480
Dilutive effect of share options	0	0	0
Weighted average number of common shares and ADS for the purpose of Earnings/Loss Per Share (diluted)	111,824,022	111,690,533	111,583,480
Diluted earnings/loss per share (EUR)	**0.41**	**0.06**	**-0.22**

The following securities issued were not included in the computation of the diluted earnings per share, as their effect would be anti-dilutive:

Number of shares	2018	2017	2016
Share options	1,338,000	1,533,765	2,317,790

22. Employee benefits

Defined contribution plan

The Group grants retirement benefits to qualified employees through various defined contribution pension plans. In 2018 the expense recognized for defined contribution plans amounted to kEUR 995 (2017: kEUR 1,119, 2016 kEUR 1,454).

In addition to the Group's retirement benefit plans, the Group is required to make contributions to state retirement benefit schemes in the countries in which it operates. AIXTRON is required to contribute a specified percentage of payroll costs to the retirement schemes in order to fund the benefits. The only obligation of the Group is to make the required contributions.

23. Share-based payment

The Company has different fixed option plans which reserve shares of common stock for issuance to members of the Executive Board, management and employees of the Group.

AIXTRON stock option plan 2007

In May 2007, options were authorized to purchase 3,919,374 shares of common stock. 50% of the granted options may be executed after a waiting period of not less than two years, further 25% after three years and the remaining 25% after at least four years. The options expire 10 years after they have been granted. Under the terms of the 2007 plan, options were granted at prices equal to the average closing price over the last 20 trading days on the Frankfurt Stock Exchange before the grant date, plus 20%. Options to purchase 672,000 common shares were outstanding under this plan as of December 31, 2018.

AIXTRON stock option plan 2012

In May 2012, options were authorized to purchase shares of common stock. The granted options may be exercised after a waiting period of not less than four years. The options expire 10 years after they have been granted. Under the terms of the 2012 plan, options are granted at prices equal to the average closing price over the last 20 trading days on the Frankfurt Stock Exchange before the grant date, plus 30%. Options to purchase 666,000 common shares were outstanding under this plan as of December 31, 2018.

Summary of Stock Option Transactions

AIXTRON share options	Number of shares 2018	Average exercise price (EUR) 2018	Number of shares 2017	Average exercise price (EUR) 2017
Balance at January 1	1,533,765	16.60	2,317,790	16.60
Exercised during the year	2,590	4.17	120,625	4.21
Forfeited during the year	193,175	22.83	663,400	10.54
Outstanding at December 31	1,338,000	19.36	1,533,765	19.77
Exercisable at December 31	1,338,000	19.36	825,365	25.44

AIXTRON Stock Options as of December 31, 2018

	Exercise price per share (EUR)	Underlying shares represented by outstanding options	Shares represented by exercisable options	Average option life (in years)
2009	24.60	313,300	313,300	1.0
2010	26.60	350,700	350,700	2.0
2011	12.55	8,000	8,000	3.0
2014	14.01	21,000	21,000	6.0
2014	13.14	645,000	645,000	6.0
		1,338,000	**1,338,000**	

Assumptions used to calculate fair values and share-based payment expenses

The fair value of services received in return for stock options granted is measured by reference to the fair value of the stock options granted. The fair value of the stock options is determined on the basis of a mathematical model.

In 2018, the personnel expenses from share-based payments, all of which were equity settled share based payments, were kEUR 1,524 (2017: kEUR 257; 2016: kEUR 753). Share based payments include the expense of stock options and that part of bonus payments paid in shares (see Note 30).

As of December 31, 2018 all amounts relating to stock options granted prior to that date had been recognized as a personnel expense.

24. Provisions

Development and breakdown of provisions

in EUR thousands	01.01.2018	Exchange rate differences	Usage	Reversal	Addition	31.12.2018	Current	Non-current
Personnel expenses	6,046	65	4,736	557	6,185	7,003	7,003	0
Warranties	7,583	-1	3,722	3,146	5,902	6,616	5,538	1,078
Onerous contracts	405	2	111	134	43	205	199	6
Commissions	140	2	127	7	132	140	140	0
Other	8,543	48	6,946	840	6,047	6,852	6,459	393
Total	**22,717**	**116**	**15,642**	**4,684**	**18,309**	**20,816**	**19,339**	**1,477**

Personnel expenses

These include mainly provisions for holiday pay, payroll and severance costs, which are financial liabilities.

Provisions for onerous contracts

These include provisions associated with contracts where the unavoidable costs of meeting the contract obligations exceed the economic benefits expected to be received. These mainly relate to supply contracts for materials which are excess to the forecast future requirements.

Commissions

Commissions are payable to sales agents and are recorded as financial liabilities.

Warranties

Warranty provisions are the estimated unavoidable costs of providing parts and service to customers during the normal warranty periods.

Other provisions

Other provisions consist mainly of the estimated cost of services received.

For provisions existing at both December 31, 2018 and December 31, 2017, the economic outflows resulting from the obligations that are provided for are expected to be settled within one year of the respective balance sheet date for current provisions and within two years of the respective balance sheet date, but more than one year, for non-current provisions.

25. Trade payables and other current liabilities

The liabilities consist of the following:

in EUR thousands	2018	2017
Trade payables	**27,815**	**14,265**
Liabilities from grants	2,320	1,862
Payroll taxes and social security contributions	706	1,122
VAT and similar taxes	679	525
Other liabilities	1,250	12,369
Other current liabilities	**4,955**	**15,878**
Trade payables and other current liabilities	**32,770**	**30,143**

The carrying amount of trade payables and other current liabilities approximates their fair value. Trade payables, grant liabilities, taxes and other liabilities fall due for payment within 90 days of receipt of the relevant goods or services.

Other liabilities in 2017 included kEUR 11,727 (2018 nil) related to the sale of the ALD/CVD activity to Eugenus Inc.

26. Financial Instruments

Details of the significant accounting policies and methods, the basis of measurement that are used in preparing the financial statements and the other accounting policies that are relevant to an understanding of the financial statement are disclosed in Note 2 to the financial statements.

Financial risk management objectives

The Group seeks to minimize the effects of any risk that may occur from any financial transaction. Key aspects are the exposures to liquidity risk, credit risk, interest rate risk and currency risk arising in the normal course of the Group's business.

The AIXTRON Group's central management coordinates access to domestic and international financial institutions and monitors and manages the financial risks relating to the operations of the Group through internal risk reports which analyze exposure to risk by likelihood and magnitude. These risks cover all aspects of the business, including financial risks; and the risk management system is in accordance with the corporate governance recommendations specified in the German Corporate Governance Code.

Liquidity risks

Liquidity risk is the risk that the Group is unable to meet its existing or future obligations due to insufficient availability of cash or cash equivalents. Managing liquidity risk is one of the central tasks of AIXTRON SE. In order to be able to ensure the Group's solvency and flexibility at all times cash and cash equivalents are projected on the basis of regular financial and liquidity planning.

As at December 31, 2018 the Group did not have any borrowings (2017 nil). Financial liabilities, all due within one year, of kEUR 32,770 (2017 kEUR 30,143) consisting of trade payables and other liabilities and are shown in Note 25, together with an analysis of their maturity.

As at December 31, 2018 the Group had kEUR 263,707 (2017: kEUR 246,526) of cash and bank deposits.

Credit risks

Financial assets generally exposed to a credit risk are trade receivables and cash and cash equivalents.

The Group's cash and cash equivalents are kept with banks that have a good credit standing. Central management of the Group assesses the counter-party risk of each financial institution dealt with and sets limits to the Group's exposure to those institutions. These credit limits are reviewed from time to time so as to minimize the default risk as far as possible and to ensure that concentrations of risk are managed.

The maximum exposure of the Group to credit risk is the total amount of receivables, financial assets and cash balances as described in Notes 17, 18 and 19.

For contract assets measured at fair value, the maximum amount of the exposure to credit risk is the amount of contract assets measured at fair value as disclosed in Note 26. There are no credit derivatives or similar instruments which mitigate the maximum exposure to credit risk and there has been no change during the period or cumulatively in the fair value of such receivables that is attributable to changes in the credit risk.

Market risks

The Group's activities expose it to the financial risks of changes in foreign currency exchange rates and interest rate risks. Interest rate risks are not material as the Group only receives a minor amount of interest income. The Group does not use derivative financial instruments to manage its exposure to interest rate risk. Cash deposits are made with the Group's bankers at the market rates prevailing at inception of the deposit for the period and currency concerned. There has been no change to the Group's exposure to market risk or the manner in which it manages and measures the risk.

Foreign currency risk

The Group may enter into a variety of derivative financial instruments to manage its exposure to foreign currency risk, including forward exchange contracts to hedge the exchange rate risk arising on the export of equipment. The main exchange rates giving rise to the risk are those between the US Dollar, Pound Sterling and Euro.

The carrying amounts of the Group's foreign currency denominated monetary assets and monetary liabilities at the reporting date are as follows:

in EUR thousands	Assets 2018	Assets 2017	Liabilities 2018	Liabilities 2017
US Dollars	88,346	109,889	48,778	-20,534
GB Pounds	8,879	4,064	1,970	-958

Exposures are reviewed on a regular basis and are managed by the Group through sensitivity analysis.

Foreign currency sensitivity analysis

The Group is mainly exposed to US Dollar exchange rate risks through its worldwide activities.

The following table details the company's sensitivity to a 10% change in the value of the Euro against the Dollar. A positive number indicates an increase in profit and other equity, a negative number indicates a reduction in profit and other equity.

Increase in value of Euro by 10%	USD Currency Effect	
in EUR thousands	2018	2017
Profit or loss	-1,308	-3,102
Other comprehensive income	5,472	-251

Decrease in value of Euro by 10%	USD Currency Effect	
in EUR thousands	2018	2017
Profit or loss	1,308	3,102
Other comprehensive income	-5,472	251

The sensitivity analysis represents the foreign exchange risk at the year-end date only. It is calculated by revaluing the Group's financial assets and liabilities, existing at 31 December, denominated in US-Dollars by 10%. It does not represent the effect of a 10% change in exchange rates sustained over the whole of the financial year, only the effect of a different rate occurring on the last day of the year.

Fair values and Contract Assets

Cash and cash equivalents, receivables are stated at amortized cost. Contract assets are outside the scope of IFRS 9.

Contract liabilities – Advance payments

Contract liabilities for advance payments from customers occur when a contract requires the customer to pay a deposit to the Company and the deposit has actually been paid, typically near the commencement of the contract. Usually, advance payments are up to 50% of the total contract price.

The Company records the liability as the advance payment is received and eliminates the liability at the same time and up to the same amount as it records revenue until the liability is fully extinguished.

The changes in contract liabilities for advance payments in the year reflects the changing level of outstanding customer orders.

Financial Assets 2018

in EUR thousands	At Amortized Cost	At Fair Value	Total Carrying amount and fair value
Cash and cash equivalents	236,207	0	236,207
Other financial assets	27,500	0	27,500
Other non-current assets	430	0	430
Trade receivables	38,433	0	38,433
Contract assets (not in scope of IFRS 9)	0	1,704	1,704
Total	**302,570**	**1,704**	**304,274**

Financial Liabilities 2018

in EUR thousands	At Amortized Cost	At Fair Value	Total Carrying amount and fair value
Trade payables	27,815	0	27,815
Contract liabilities - Advance payments from customers (not in scope of IFRS 7)	53,314	0	53,314
Total	**81,129**	**0**	**81,129**

Financial Assets 2017

in EUR thousands	At Amortized Cost	At Fair Value	Total Carrying amount and fair value
Cash and cash equivalents	226,526	0	226,526
Other financial assets	20,000	0	20,000
Other non-current assets	391	0	391
Trade receivables	18,782	0	18,782
Contract assets (not in scope of IFRS 9)	0	507	507
Total	**265,699**	**507**	**266,206**

Financial Liabilities 2017

in EUR thousands	At Amortized Cost	At Fair Value	Total Carrying amount and fair value
Trade payables	14,265	0	14,265
Contract liabilities - Advance payments from customers (not in scope of IFRS 7)	30,266	0	30,266
Total	**44,531**	**0**	**44,531**

Trade receivables/payables

For trade receivables/payables due within less than one year, measured at amortized cost, the fair value is taken to be the carrying amount.

27. Operating leases

Leases as lessee

Non-cancellable operating lease rentals are payable as follows:

in EUR thousands	
Not later than one year	1,117
Later than one year and not later than five years	2,467
Later than five years	117
Total	**3,701**

The Group leases certain buildings, equipment and vehicles under various operating leases. Under most of the lease commitments for buildings the Group has options to renew the leasing contracts. The leases typically run for a period between one and ten years. None of the leases include contingent rentals.

The expenses for leasing contracts were kEUR 2,080, kEUR 3,827 and kEUR 3,923 for 2018, 2017 and 2016 respectively.

28. Capital commitments

Purchase commitments in EUR thousands	2018	2017
Capital expenditures	990	1,750
Other expenditures	48,917	63,569
Total commitments with suppliers at Dec 31	49,907	**65,319**

29. Contingencies

AIXTRON is involved in various legal proceedings or can be exposed to a threat of legal proceedings in the normal course of business. The Executive Board regularly analyses these matters, considering any possibilities of avoiding legal proceedings or of covering potential damages under insurance contracts and has recognized, where required, appropriate provisions. It is not expected that such matters will have a material effect on the Group's net assets, results of operations and financial position.

30. Identity of related parties

Related parties of the Group are members of the Executive Board and members of the Supervisory Board.

The disclosures of key management personnel compensation are as follows:

Remuneration of the members of the Executive Board:

in EUR thousands	2018	2017	2016
Short-term employee benefits	1,936	1,296	1,056
Share based payments	1,197	59	0
	3,133	**1,355**	**1,056**

Share based payments refer to the fair value of share options at grant date and also includes that portion of bonus agreements which is settled in shares.

Remuneration of the members of the Supervisory Board:

in EUR thousands	2018	2017	2016
Fixed remuneration (incl. attendance fee)	495	333	449
	495	**333**	**449**

Individual amounts and further details regarding the remuneration of the members of the Executive Board and Supervisory Board are disclosed in the Remuneration Report which is an integral part of the Group Management Report.

31. Consolidated entities

AIXTRON SE controls the following subsidiaries:

Wholly owned subsidiaries	Place of incorporation and operation	Percentage control 31 December 2018	Percentage control 31 December 2017
AIXTRON Ltd.	England & Wales	100%	100%
AIXTRON Korea Co Ltd.	South Korea	100%	100%
AIXTRON KK	Japan	100%	100%
AIXTRON China Ltd	China	100%	100%
AIXTRON Taiwan Co Ltd	Taiwan	100%	100%
AIXTRON Inc.	USA	100%	100%

Non-Wholly Owned Subsidiaries	Place of incorporation and operation	Percentage control 31 December 2018	Percentage control 31 December 2017
APEVA Holdings Ltd	England & Wales	93%	N/A
APEVA SE	Germany	93%	100%
APEVA Co Ltd	South Korea	93%	100%

Proportion of voting rights and ownership interests held by non-controlling interests	Profit (loss) allocated to non-controlling interests	Profit (loss) allocated to non-controlling interests	Accumulated non-controlling interests	Accumulated non-controlling interests
APEVA GROUP	2018 kEUR	2017 kEUR	2018 kEUR	2017 kEUR
7%	-4	N/A	1,059	N/A

The effect on the equity attributable to the owners of AIXTRON SE of the change in ownership interest of the APEVA Group (APEVA Holdings Ltd, APEVA Co Ltd and APEVA SE) is shown in the Consolidated Statement of Changes in Equity. Transactions with Non-controlling Interests in Subsidiaries resulted in an increase in the equity attributable to the owners of AIXTRON SE of kEUR 9,336 (2017 nil).

All companies in the Group are engaged in the supply of equipment to the semiconductor industry. Design and manufacture of equipment takes place at the entities in Germany and the UK. Service and distribution takes place at all locations.

32. Events after the reporting period

There are no events which have occurred after the balance sheet date, of which the directors have knowledge, which would result in a different assessment of the Group's net assets, results of operation and financial position.

33. Auditors' fees

Fees expensed in the income statement for the services of the Group auditor, Deloitte, are as follows:

in EUR thousands	2018	2017
for audit	585	483
for other confirmation services	38	28
for tax advisory services	142	106
for other services	0	6
	765	**620**

Included in the total amount of fees are fees for the group auditor Deloitte GmbH, Wirtschaftsprüfungsgesellschaft, Duesseldorf, in the amount of kEUR 405 for audit (2017: kEUR 362), kEUR 38 for other confirmation services (2017: kEUR 28), kEUR 68 for tax services (2017: kEUR 47) and kEUR 0 for other services (2017: kEUR 6). The amounts in 2018 include kEUR 15 for previous years.

The amounts for other confirmation services include fees for audits on EEG (renewable energy law) and KWKG (act on combined heat and power generation) as well as the non-financial group report. Other services in 2017 contain fees for GoBD (accounting principles) consultations.

34. Employees

Compared to last year, the average number of employees during the current year was as follows:

	2018	2017
Sales	50	52
Research and Development	205	240
Manufacturing and Service	255	284
Administration	82	86
Employees (Section 314 HGB)	**592**	**662**
Executive board members	2	2
	594	**664**
Apprentices	14	12
Total number of employees	**608**	**676**

35. Supervisory Board and Executive Board

Composition of the Supervisory Board in the financial year

- **Kim Schindelhauer**
  Businessman / Chairman of the Supervisory Board

- **Prof. Dr. Wolfgang Blättchen**
  Management Consultant / Deputy Chairman of the Supervisory Board

  Membership of Supervisory Boards and controlling bodies:

  - Pfisterer Holding AG, Winterbach - Chairman of the Supervisory Board

- **Prof. Dr. Rüdiger von Rosen**
  Managing Director of Sino-German M&A Service GmbH / Member of the Supervisory Board until 16 May 2018

  Membership of Supervisory Boards and controlling bodies:

  - ICF Bank AG, Frankfurt/Main – Deputy Chairman of the Supervisory Board
  - Paladin Asset Management Investment AG, Hanover – Chairman of the Supervisory Board

- **Prof. Dr. Petra Denk**
  Professor of Energy Economics / Member of the Supervisory Board since 2011

  Membership of Supervisory Boards and controlling bodies:

  - Pfisterer Holding AG, Winterbach – Member of the Supervisory Board
  - 40-30 S.A., Seyssinet-Pariset, France – Member of the Supervisory Board since 5 April 2018

- **Dr. Andreas Biagosch**
  Managing Partner Impacting I GmbH & Co KG /
  Member of the Supervisory Board since 2013

  Membership of Supervisory Boards and controlling bodies:

  - Lürssen Werft GmbH, Bremen, Member of the Advisory Board
  - Ashok Leyland Limited, Chennai/India - Non-Executive Director
  - Wacker Chemie AG, Munich – Member of the Supervisory Board
  - Hinduja Leyland Finance Limited, Chennai/India - Non-Executive Director
  - Athos Service GmbH, Munich – Member of the Advisory Board

- **Dr. Martin Komischke**
  President of the Board of Directors of HOERBIGER Holding AG, Zug/Switzerland / Member of the Supervisory Board since 2013

  Membership of Supervisory Boards and controlling bodies:

  - VAT Group AG, Haag, Switzerland – Chairman of the Board of Directors

Composition of the Executive Board in the financial year

- **Dr. Bernd Schulte,** Aachen, Member of the Executive Board since 2002
- **Dr. Felix Grawert,** Aachen, Member of the Executive Board since 2017

36. Critical accounting judgments and key sources of estimation and uncertainty

The preparation of AIXTRON's Consolidated Financial Statements requires the Group to make certain estimates, judgments and assumptions that the Group believes are reasonable based upon the information available. These estimates and assumptions affect the reported amounts and related disclosures and are made in order to fairly present the Group's financial position and results of operations. The following accounting policies are significantly impacted by these estimates and judgments that AIXTRON believes are the most critical to aid in fully understanding and evaluating its reported financial results:

Revenue Recognition

Revenue for the supply of most equipment to customers is generally recognized in two stages, partly on delivery and partly on final installation and acceptance (see Note 2 (n)). The Group believes, based on past experience, that this method of recognizing revenue fairly states the revenues of the Group. The judgements made by management include an assessment of the point at which control has passed to the customer.

Valuation of Inventories

Inventories are stated at the lower of cost and net realizable value. This requires the Group to make judgments concerning obsolescence of materials. This evaluation requires estimates, including both forecasted product demand and pricing environment, both of which may be susceptible to significant change. The carrying amount of inventories is disclosed in Note 16.

As disclosed in Notes 3 and 16, during the years 2018, 2017 and 2016 the Group incurred expenses of kEUR 3,018, kEUR 2,611 and kEUR nil respectively arising mainly from changes to past assumptions concerning net realizable value of inventories and excess and obsolete inventories. In future periods, write-downs of inventory may be necessary due to (1) reduced demand in the markets in which the Group operates, (2) technological obsolescence due to rapid developments of new products and technological improvements, or (3) changes in economic or other events and conditions that impact the market price for the Group's products. These factors could result in adjustment to the valuation of inventory in future periods, and significantly impact the Group's future operating results.

Income Taxes

At each balance sheet date, the Group assesses whether the realization of future tax benefits is sufficiently probable to recognize deferred tax assets. This assessment requires the exercise of judgement on the part of management with respect to future taxable income. The recorded amount of total deferred tax assets could be reduced if estimates of projected future taxable income are lowered, or if changes in current tax regulations are enacted that impose restrictions on the timing or extent of the Group's ability to utilize future tax benefits. The carrying amount of deferred tax assets is disclosed in Note 14.

Provisions

Provisions are liabilities of uncertain timing or amount. At each balance sheet date, the Group assesses the valuation of the liabilities which have been recorded as provisions and adjusts them if necessary. Because of the uncertain nature of the timing or amounts of provisions, judgement has to be exercised by the Group with respect to their valuation. Actual liabilities may differ from the estimated amounts. Details of provisions are shown in Note 24.

Legal proceedings

In the normal course of business, the Group is subject to various legal proceedings and claims. The Company, based upon advice from legal counsel, believes that the matters the Group is aware of are not likely to have a material adverse effect on its financial condition or results of operations. The Group is not aware of any unasserted claims that may have a material adverse effect on its financial condition or results of operation.

Herzogenrath, February 25, 2019
AIXTRON SE

Executive Board

Dr. Felix Grawert

Dr. Bernd Schulte

FURTHER INFORMATION

Responsibility Statement by the Management Board

Responsibility Statement required by Sections 297(2) sentence 4 and 315(1) sentence 5 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 25, 2019
AIXTRON SE

Executive Board

Dr. Felix Grawert | **Dr. Bernd Schulte**

Independent Auditor’s Report

To AIXTRON SE, Herzogenrath/Germany

REPORT ON THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND OF THE GROUP MANAGEMENT REPORT

Audit Opinions

We have audited the consolidated financial statements of AIXTRON SE, Herzogenrath/Germany, and its subsidiaries (the Group), consolidated which comprise the consolidated statement of financial position as at 31 December 2018, and the consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the financial year from 1 January to 31 December 2018, and the notes to the consolidated financial statements, including the presentation of the recognition and measurement policies. In addition, we have audited the group management report of AIXTRON SE, Herzogenrath/Germany, for the financial year from 1 January to 31 December 2018. In accordance with the German legal requirements, we have not audited the content of the Group’s statement on corporate governance pursuant to Section 315b and Section 316c German Commercial Code (HGB) and the corporate governance report pursuant to Number 3.10 of the German Corporate Governance Code, both referred to in the group management report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRS, as adopted by the EU, and the additional requirements of German commercial law pursuant to Section 315e (1) German Commercial Code (HGB) and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2018, and of its financial performance for the financial year from 1 January to 31 December 2018, and
- the accompanying group management report as a whole provides an appropriate view of the Group’s position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our audit opinion on the group management report does not cover the content of the statement on corporate governance, the non-financial group report and the corporate governance report referred to above.

Pursuant to Section 322 (3) Sentence 1 German Commercial Code (HGB), we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Section 317 German Commercial Code (HGB) and the EU Audit Regulation (No. 537/2014; referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group companies in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) Point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements for the financial year from 1 January to 31 December 2018. These matters were addressed in the context of our audit of the consolidated financial statements as a whole and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In the following, we present the key audit matters we have determined in the course of our audit:

1. revenue recognition for multiple-element arrangements including cut-off
2. measurement of deferred tax assets

Our presentation of these key audit matters has been structured as follows:

a) description (including reference to corresponding information in the consolidated financial statements)

b) auditor's response

1. Revenue Recognition for Multiple-element Arrangements Including Cut-off

a) The revenue as stated in the consolidated income statement amounts to kEUR 268,811. A substantial proportion of this revenue comprises the settlement of customer contracts that include multiple performance obligations. These arrangements primarily deal with the customer-specific manufacturing and supply of semiconductor equipment and its installation at the customer's site. Furthermore, in specific cases, the Group and the customer agree on the supply of related spare parts and/or the provision of services such as maintenance services and/or certain rights of return. These services are to be measured separately. As part of the technical acceptance process with regard to the equipment, any additional services may be required. These additional services also have to be considered when recognising revenue. Generally, the contract with the customer provides for a transaction price for the equipment and the remaining elements such as installation, spare parts packages, services and specific rights of return. Consequently, the transaction price needs to be allocated to each performance obligation based on a relative stand-alone selling price basis. Except for certain rights of return, the performance obligations are satisfied at a certain point in time and the related revenue is realised. The determination of the time of revenue recognition regarding arrangements comprising multiple performance obligations and the cut-off as part of revenue recognition are subject to the executive directors' judgement and assumptions due to the highly individual customer contracts and complex equipment. In addition, the new IFRS 15 was to be applied for the first time. As a consequence, we considered this issue to be a key audit matter.

The information of the executive directors on revenue is provided in section 2 "Significant Accounting Polices" in note N "Revenue" as well as in section 3 "Group Segment Information and Revenue" in the notes to the consolidated financial statements.

b) First, we recorded and assessed the major processes from order confirmation until settlement including the audit of the design, implementation and effectiveness of the accounting-related controls regarding revenue recognition. In this context, our audit primarily covered the effectiveness of the controls regarding the allocation of the transaction price to the individual performance obligations according to IFRS 15, the complete provision of the supply and installation services and the recognition of the supplied equipment and installation services on an accrual basis.

We performed the following audit procedures based on a stratified and random selection of a sample taken from equipment supplies and installation services by means of a representative sampling method:

- equipment supplies: audit of an existent customer contract, evaluation of the allocation of the transaction price on a relative stand-alone selling price basis to the individual supply and service elements by verifying the underlying contract, reviewing the time of revenue recognition pursuant to contract terms, primarily the incoterms based on the acceptance test records and based on the acceptance and supply records of the dispatch company, review of the customer's payment made.

- installation services: audit of an existent final acceptance record signed by the customer including the review of estimations made by the executive directors regarding work to be done yet as well as any additional agreements to the contract with the customer as regards additional services to be rendered and review of the related cut-off of revenue, assessment of the completeness and accuracy of the corresponding information provided in the notes to the consolidated financial statements.

2. Measurement of Deferred Tax Assets

a) Total deferred tax assets of kEUR 12,832 (accounting for 2.4% of the Group's total assets) are stated as "Deferred tax assets" in the consolidated statement of financial position. These deferred tax assets were determined based on the Group's tax planning and mainly result from tax loss carry-forwards (kEUR 11,766) and deductible differences between IFRS carrying values and their tax base to be reversed in the following years (kEUR 1,066). The majority of the deferred tax assets (kEUR 9,464) results from the parent company AIXTRON SE, which has comprehensive tax loss carry-forwards. The executive directors are of the opinion that for the parent company a realiable estimate of taxable results beyond a period of twelve months after the balance sheet date is not possible for a technology company characterised by highly fluctuating demand and volatile results. Accordingly, deferred taxes on tax loss carry-forwards and temporary differences concerning the parent company AIXTRON SE were only recognised insofar as they are expected to be used in 2019. The deferred tax assets concerning the parent company AIXTRON SE are measured using a tax rate of 32.8%, which is the currently applicable income tax rate. The other deferred tax assets result from tax loss carry-forwards and deductible differences concerning the foreign subsidiaries of AIXTRON SE. As they are largely secured by cost-plus agreements with the parent company, which bears the major risks, these deferred tax assets are based on a tax planning over a period of three years using the corresponding local tax rates.

The result of the computation of the deferred tax assets depends on whether tax benefits can be realised from tax loss carry-forwards according to estimations and assumptions of the executive directors and, therefore, are subject to uncertainties. Accordingly, we considered the valuation of deferred assets to be a key audit matter.

Information on deferred taxes is provided by the executive directors of the parent company in note 14 to the consolidated financial statements.

b) As part of our audit, we used the knowledge and audit results gained in previous years. For the purpose of risk assessment, we obtained an understanding of the past planning accuracy. First, we assessed whether the measurement methods applied are appropriate. General and industry-specific market expectations of the executive directors of AIXTRON SE were compared with external sources.

As part of our examination of the tax matters, we consulted internal tax experts, who were involved in the audit team. They supported us in assessing the implemented processes and controls for validating the planning assumptions and recording tax matters. In addition, with respect to the tax planning, we challenged the recognition of the deferred tax assets and the explanations of the executive directors. We assessed the recoverability of the deferred tax assets on tax loss carry-forwards on the basis of corporate forecasts and the budget prepared by the executive directors concerning the future taxable profits of AIXTRON SE and its major subsidiaries and reviewed the appropriateness of the basis used for the budget. Furthermore, we obtained an understanding of the reconciliation between the expected tax expense, which was determined by applying the weighted group tax rate, and the recognised tax expense.

Other Information

The executive directors are responsible for the other information. The other information comprises:

- the statement of corporate governance pursuant to Section 315d German Commercial Code (HGB) referred to in section 6 of the group management report
- the non-financial group report pursuant to Sections 315b to 315c German Commercial Code (HGB) referred to in section 1.1.6 in the group management report
- the corporate governance report pursuant to No. 3.10 of the German Corporate Governance Code referred to in section 6 of the group management report
- the executive directors' confirmation relating to the consolidated financial statements and to the combined management report pursuant to Section 297 (2) Sentence 4 and Section 315 (1) Sentence 5 German Commercial Code (HGB), respectively
- all the remaining parts of the annual report, with the exception of the audited consolidated financial statements and group management report and our auditor's report.

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

Responsibilities of the Executive Directors and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRS, as adopted by the EU, and the additional requirements of German commercial law pursuant to Section 315e (1) German Commercial Code (HGB) and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 German Commercial Code (HGB) and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

We exercise professional judgement and maintain professional scepticism throughout the audit. We also

- identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control
- obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems
- evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures
- conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern
- evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRS, as adopted by the EU, and with the additional requirements of German commercial law pursuant to Section 315e (1) German Commercial Code (HGB)
- obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are

responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions

- evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides
- perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

OTHER LEGAL AND REGULATORY REQUIREMENTS

Further Information pursuant to Article 10 of the EU Audit Regulatio

We were elected as auditor by the annual general meeting on 16 May 2018. We were engaged by the supervisory board on 15 July 2018. We have been the group auditor of AIXTRON SE, Herzogenrath/Germany, without interruption since the financial year 1996.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

GERMAN PUBLIC AUDITOR RESPONSIBLE FOR THE ENGAGEMENT

The German Public Auditor responsible for the engagement is Martin Mißmahl.

Düsseldorf, February 25, 2019

Deloitte GmbH
Wirtschaftsprüfungsgesellschaft

Prof. Dr. Holger Reichmann	Martin Mißmahl
Wirtschaftsprüfer	Wirtschaftsprüfer

Financial Calendar

April 30, 2019	Publication of the results for the 1st quarter of 2019
May 15, 2019	Annual General Meeting 2019 in Aachen, Germany
July 25, 2019	Publication of the results for the 1st half of 2019
October 24, 2019	Publication of the results for the 3rd quarter of 2019

Imprint

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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.

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