

ANNUAL REPORT 2012

*AIXTRON*

FIT  
FOR THE  
FUTURE



# COMPANY PROFILE

## FIT FOR THE FUTURE

AIXTRON is a leading manufacturer of **DEPOSITION** equipment for the **SEMICONDUCTOR** industry. Our systems are globally employed in the production of semiconductor **DEVICES**, addressing markets of varying development, from early stage emerging markets to mature application markets. Whether it be for the production of **LEDS**, power electronics, memory devices, organic electronics or nanomaterials – we deliver effective and critical key-enabling solutions for all of our globally based customers.

We are dedicated to innovation, with research and development at the heart of our business. Close global collaborations with renowned universities, research centers and industry partners allow us to transfer today's leading research into tomorrow's production equipment – enabling future applications with innovation and expertise.

## COMPANY PROFILE

AIXTRON is a leading manufacturer of **DEPOSITION** equipment, a critical element in the **SEMICONDUCTOR DEVICE** manufacturing process. Our systems are used by our customers throughout the world addressing markets in different stages of development – from early stage emerging markets through to mature markets. These include **DISPLAY** technologies, data storage, data transmission, power management, energy conversion, communication, signaling, lighting applications and many other exciting high-technology applications.

AIXTRON has 964 employees based in all of the major international markets. Our headquarters are in Herzogenrath, Germany and we have subsidiaries in China, Sweden, the UK and the US, as well as sales and service offices in Japan, Korea and Taiwan.

AIXTRON is dedicated to research and development (R&D) and manages a network of cutting-edge R&D infrastructure located around the world, including a modern central R&D center at our headquarters. Through close collaboration with world renowned research centers, universities and industry partners worldwide, we remain at the forefront of innovation in complex material deposition. Our R&D investment of EUR 72.9m in 2012 is a clear sign of our consistent commitment to the future – even in these difficult economic times. Supplementing our own development of production systems for a diverse mix of applications, AIXTRON is also engaged in a number of publicly funded research projects, focused on promising future or emerging applications, e.g. in the fields of graphene, organic materials and power electronics. We are consequently uniquely positioned to both meet our customers' needs today, and pave the way for the future.

[Read more about Research and Development at AIXTRON: Chapter 1.9. Research and Development](#)

Not only do we provide small-scale equipment specifically designed for R&D customers, but we also supply full production-scale material deposition systems for manufacturing customers with the appropriate technological solution designed specifically for their particular needs. This customer focused engineering obsession reflects our conviction that our customers are our greatest asset. As such, we provide intensive local support through our global service infrastructure. In China, for example, we operate a full demonstration and training center with AIXTRON's most advanced deposition technologies available on site. With the full process support of our cooperation partner in Suzhou; SINANO (Suzhou Institute of Nano-tech and Nano-bionics) we ensure that our customers can extract maximum value from our products.

[Read more about Sales and Services activities at AIXTRON: Chapter 1.12. Sales and Services](#)

Focused on our strengths, we are 'Fit for the Future' – with a clear emphasis on efficient, customer-

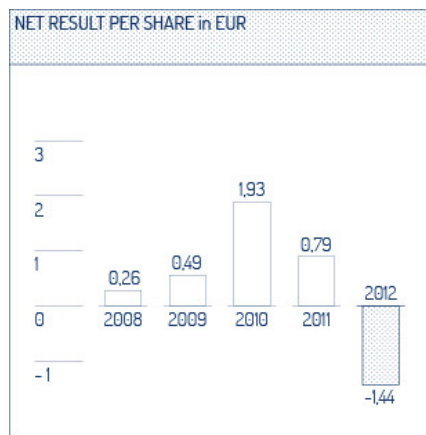
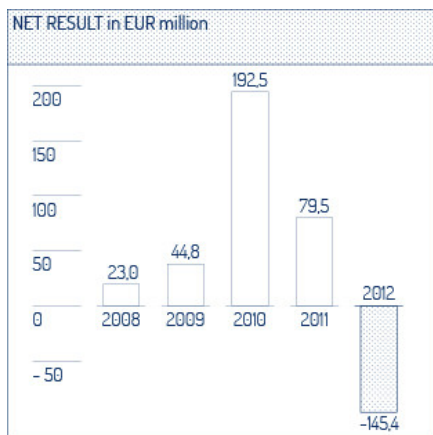
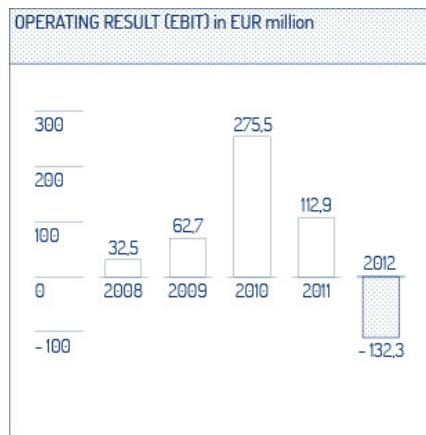
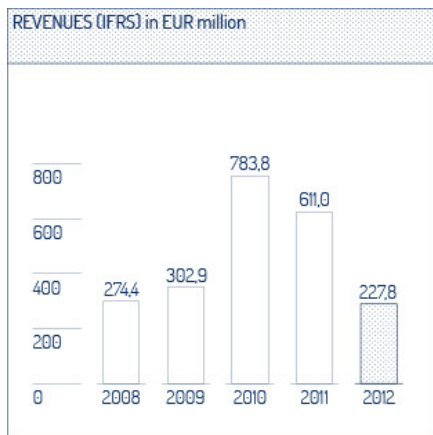
oriented, technological development; that is what AIXTRON will always stand for; Today, Tomorrow and Beyond.

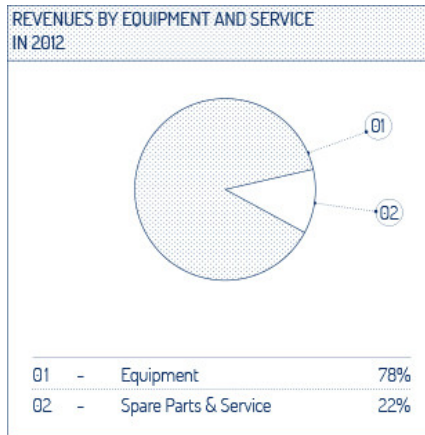
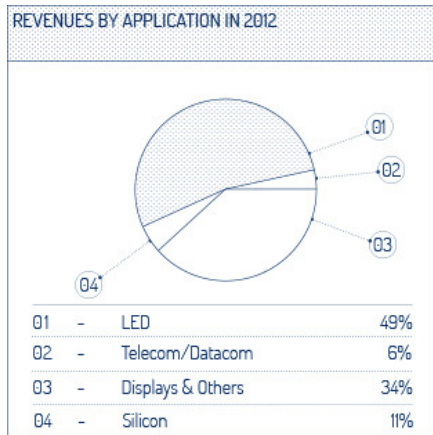
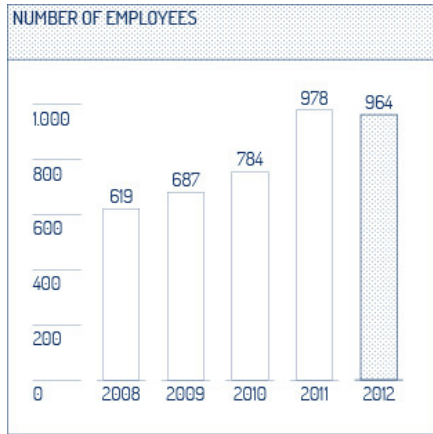
# AT A GLANCE

## Key Financials in EUR million

	2012	2011	2010	2012-2011
	Full Year	Full Year	Full Year	pp
Revenues	227.8	611.0	783.8	-63
Gross profit	0.4	231.4	411.8	-100
Gross margin	n/a	38%	53%	-38
Operating result (EBIT)	-132.3	112.9	275.5	-217
EBIT margin	n/a	18%	35%	-76
Net result	-145.4	79.5	192.5	-283
Net result margin	n/a	13%	25%	-77
Net result per share - basic (EUR)	-1.44	0.79	1.93	-282
Net result per share - diluted (EUR)	-1.44	0.78	1.89	-282
Free cash flow*	-61.6	-36.2	95.9	70
Equipment Order Intake	131.4	513.4	748.3	-74
Equipment Order Backlog (end of period)	79.4	141.0	274.8	-44

\*Operating CF + Investing CF + Changes in Cash Deposits





# LETTER TO THE SHAREHOLDERS

DEAR SHAREHOLDERS,

2012 proved to be an exceptionally difficult year for AIXTRON largely due to the severe and extended macroeconomic headwinds the entire global economy has been suffering from.

We do however remain positive about both the mid-term and long-term outlook, and albeit muted, there are clear signs of stabilization particularly in the Euro zone as well as better than expected economic data out of Japan, China and the US.

The small increase in demand we saw in the second half of 2012 encourages us to believe that we have reached the bottom of the current cycle and we are continuing to see an improvement in our business environment, although at a very modest pace.

[READ MORE](#)

But let me zoom up to the bigger picture and take a longer-term view; despite the challenging nature of 2012, we are increasingly confident of our future profitability and we continue to invest significantly in several exciting new areas of opportunity, which I will outline later.

We believe that these new growth area opportunities, combined with an inevitable inflection point in the long awaited demand for **LED** for **GENERAL LIGHTING** purposes, will enable us to generate substantial and sustainable shareholder value in the coming years.

Looking ahead, we see 2013 as being better than 2012 and a significantly better year in 2014, both in terms of revenues and earnings with the major driver being a pickup in demand, led by solid growth in the LED general lighting market. We also expect in 2013 a positive contribution from other end-market applications we have been working hard to develop in recent years, including production equipment needed for power electronics and **SILICON** or organic **SEMICONDUCTOR** applications.

Amongst the positive indicators for our business is the increasingly evident adoption of LED backlit televisions.

LED growth and momentum in general lighting also took a distinct step forward in 2012, largely because of government regulatory bans of incandescent lighting becoming effective, specific LED subsidies being rolled out globally and LED lighting products being adopted by consumers and municipal authorities alike.

The significantly increased competition between LED manufacturers in recent years is also beginning to show its consequent effect, including lower LED lamp pricing in all global markets, which in turn is stimulating demand, creating the momentum we are looking for.

The precise timing and magnitude of the demand development remains unclear at this stage, but our view remains that our customers are coming closer to the point where they will have to give more serious consideration to investing in new cost efficient and highly productive manufacturing systems as global LED demand expands in line with increasing adoption of LED lighting applications.

We believe that we are not only at the start of the LED lighting investment cycle but also that AIXTRON is very well positioned for what will be the biggest growth market for **LEDS** so far with our best-in-class technology, service offerings and strong customer relationships.

Looking beyond our LED application business; AIXTRON's key strength has always been its power to innovate and deliver commercial technology solutions to its customers. With the great opportunities in front of us, we again increased our investments in R&D during 2012 and are confident that these investments will lead to a whole range of new products that AIXTRON will bring to the market for years to come.

We are investing today in what we believe is essential to keep us 'Fit for the Future'.

We are maintaining our core R&D focus on three different semiconductor technology markets; production equipment for compound (i.e. LEDs, power electronics), silicon (i.e. memory) and organic materials (i.e. **OLED**).

Within those technologies, the five main end-market application opportunities we are concentrating on currently, are LED applications (compound), memory applications (silicon), power electronic applications (compound), OLED applications (organic) and carbon nanostructure applications (silicon).

I've already talked about LEDs, so let me expand what we are doing in each of these other four end-market opportunities.

In the more established silicon semiconductor industry, we believe there are significant opportunities for us to increase our equipment sales into the more advanced generations of silicon based **DEVICES**, in particular, within the memory **DEVICE** market.

In 2012 we delivered our first full production system order, for the new AIXTRON QXP-8300 **ALD DEPOSITION** tool, to a leading Korean **DRAM** manufacturer who has qualified our technology for their mass production of next generation DRAM memory devices.

We expect more growth opportunities to emerge from this line of our business as this specific customer progressively upgrades more of their production lines and we are optimistic that other customers will also qualify our technology. We believe that this silicon application alone represents a total market opportunity for AIXTRON of more than USD 800m over the next five years.

Looking now to power electronics device applications (power ICs, power semiconductor devices and modules); our customers' end-markets have been predicted by IMS Research to develop into a USD 70bn per year market by 2021, up from USD 33bn in 2010. In that we are already seeing some early commercial traction in power electronics, we believe that this market has great potential for AIXTRON going forward.

With this projected robust growth in end-user markets, we believe that the Company has a very real opportunity to significantly increase our sales into this market addressing a total equipment market opportunity larger than USD 800m over the next ten years.

Moving on; Certainly one of the most talked about emerging new technology areas is organic semiconductor devices, with the most imminent application opportunity being organic LEDs, better known as **OLEDs**. This is a fascinating technology application, which is still at a relatively early stage of commercialization.

Within this space; We launched the new **PRODOS-200** Polymer Vapor Phase Deposition (**PVPD**®) R&D platform last August which drew a lot of positive customer interest. We also announced the first delivery of a Gen 3.5 **PRODOS** production system to a major Asian customer during 2012.

Encouragingly, there are already some successful niche OLED applications commercially available today, such as small **DISPLAYS** for mobile phones or tablets. Higher volume OLED applications in development include large displays such as TVs or monitors where the inherent qualities of these organic materials allow for much more energy efficient and self-illuminating, brilliant displays compared to current **LCD** displays.

Another longer-term OLED application under development is OLED lighting. OLED lighting enables the light source produced to be in a broad 'sheet' format rather than a precise 'point of light' form. We believe that this technology has the potential to become incrementally complementary to LED technology.

The broader potential organic semiconductor application market for displays, lighting, electronics and

even solar cells is seen as a substantial mid-to long-term opportunity.

Finally; The development of carbon nanomaterial structures is clearly still at a very early stage of development where the applications have yet to become commercially meaningful. Our BM series of PECVD R&D tools, which we are increasingly selling to the commercial and academic research communities, enable our customers to manufacture highly complex carbon nanomaterials such as CARBON NANOTUBES, carbon nanowires or graphene.

Given the very real potential of these highly complex materials and material structures to become a key enabling technology for the semiconductor industry in due course, we believe this area has long-term potential for AIXTRON.

AIXTRON's core strengths and ability to take advantage of these exciting market opportunities lies in our proven expertise in complex material deposition equipment and market leading experience accumulated over 30 years of constant investment in R&D. We remain more than ever committed to leverage our core strengths and see this same market-driven R&D focus as an essential future growth driver for AIXTRON.

AIXTRON's objective is to remain a global leader in providing manufacturing solutions for LEDs and next generation semiconductor technologies. We are strongly committed to supporting our customers and working closely with them on common roadmaps which will result in us delivering new products to market, further reducing their cost of ownership and improving their performance in the coming years, thereby increasing the market potential for our equipment.

Let me summarize; Although we cannot yet put a precise date on when LED manufacturers' investment confidence will return, we see enough end-market product positioning and aggressive pricing promotion to persuade us that orders will continue to recover and that AIXTRON will have a stronger 2013 and an even stronger 2014. We recognize that challenges remain, but ones that I am confident, that we have the team required to meet them 'head on'. And you can also be assured that we will not take our eye off the longer-term opportunities that we are well positioned to take advantage of and will drive the longer-term value of AIXTRON.

Let me take this opportunity to express the Executive Board's gratitude for the very active support and encouragement that we have received from the AIXTRON Supervisory Board over the past twelve months.

I would also like to voice my appreciation to the remarkable commitment of our workforce and to thank you, our shareholders, for your continued support and patience in these challenging times. And finally, as I come to the end of my time at AIXTRON, I would like to sincerely thank both the AIXTRON team and shareholders for the support and encouragement throughout the last eleven years. It has been a privilege and honor to have been part of the AIXTRON team and I leave the Company convinced that with the foundations in place and the quality of the AIXTRON team, all stakeholders can look to the future with confidence.

# THE EXECUTIVE BOARD OF AIXTRON SE





**WOLFGANG BREME**  
CHIEF FINANCIAL OFFICER

**Wolfgang Breme**

Chief Financial Officer  
Born in 1960, married,  
2 children

**Education:** Business Graduate.  
**2002–2005** Executive Board  
Member & CFO of technotrans AG.  
**Before 2002:** board member and  
other leading positions at various  
international technology companies.



**PAUL HYLAND**  
CHIEF EXECUTIVE OFFICER

**Paul Hyland**

Chief Executive Officer  
Born in 1953, married,  
4 children

**Education:** Businessman.  
**2000–2002:** Managing Director  
Thomas Swan.  
**Previously:** Managing Director of  
various international technology  
companies.



**DR. BERND SCHULTE**  
CHIEF OPERATING OFFICER

**Dr. Bernd Schulte**

Chief Operating Officer  
Born in 1962, married,  
3 children

**Education:** Physics Graduate  
and Ph.D.  
**Since 1993:** different management  
positions at AIXTRON.

# SUPERVISORY BOARD REPORT

On a global macro economic level, fiscal year 2012 saw a continuation of a difficult economic environment and a consequent decline in global trade and employment levels. Encouragingly, although European sovereign debt crisis and market uncertainty persisted, there were perceived to be some more positive signals towards the end of the year, suggesting early indications of potential stabilization in Europe. However, the Chinese economy, the second biggest in the world and an important market for our products, although comparatively robust in the first half of the year, began to show disturbing signs of weakening industrial output and increasing inflation in the second half.

A similar uncertainty prevailed in the LED industry throughout the fiscal year and despite clear evidence of very high capacity utilization, especially in Taiwan, customers remained reluctant to commit to new orders for LED production systems. There is also clear evidence that the uncertain macro economic environment has had a directly negative impact on consumer spending with LED manufacturers expressing their own concerns about the sustainability of ongoing demand for LED TV BACKLIGHTING. Although the availability of LED lighting products continued to increase during the year, the demand for LEDS for these applications was not strong enough to act as a catalyst for further LED equipment demand.

Against this backdrop, AIXTRON has experienced significantly lower orders and sales revenues in 2012 as a result. Despite the implementation of cost-cutting measures, the Company ended the fiscal year with an operating result of EUR -132.3m on EUR 227.8m of sales.

On a more positive note, throughout 2012 we have continued to see signs of increasing momentum in end-markets for LED lighting. The final European ban on incandescent bulbs that came into effect on September 1, 2012, similar phasing-out programs in China and subsidies to promote the adoption of LED lighting consumption in Asia, reinforce the Management's view that the positive medium-to long-term outlook for the LED industry remains intact. Moreover, Supervisory Board and Management believe that the various non-LED technology projects the Company is pursuing and AIXTRON's focused research and development activities will lead to long-term market opportunities that will enable the Company to look at the future with confidence.

During fiscal year 2012, the Supervisory Board principally placed great focus on the issues of cost management and restructuring and the optimization of processes. Furthermore, we focused on examining progress and issues within key technology projects, where the Management's goal is to ensure that the Company will be ready with the right products and technologies when market demand recovers.

Supporting this approach, the Supervisory Board worked very closely with the Executive Board Management team on evaluating the Company's future strategy, planning, business performance and, specifically, product development. As is the case every year, we also discussed the risk situation, risk management and corporate COMPLIANCE. For this purpose, the Supervisory Board, the Audit Committee and the Technology Committee met regularly with the Executive Board, the latter keeping us and our committees promptly and comprehensively informed of all relevant developments. The Executive Board directly involved us in all decisions of material importance to the Company and we, in turn, provided advice to the Executive Board.

Furthermore, the Executive Board management activities and actions were monitored on a regular basis and it was ensured that the Company was managed in a legal, orderly, proper and cost-effective manner.

During 2012, the Supervisory Board held four ordinary Supervisory Board meetings on February 29, May 15, September 19 and December 5, each of which was attended by all six Supervisory Board members. After the resignation of Dr. Holger Jürgensen and Karl-Hermann Kuklies on January 30, 2013 the Supervisory Board consists of four members until the Annual General Meeting on May 23, 2013, but still constitutes a quorum.

During these meetings, the Executive Board reported on the current financial position, the risk management situation, the personnel and organizational structure as well as operational issues. We specifically discussed in great detail the existing and planned range of technology and products for the various targeted markets and regions, including comparisons with the Company's principal competitors. Focus within all these discussions was on monitoring and reviewing all marketing and product development processes to ensure that those activities met the anticipated nature of market demand. Regular status reports on regional market trends were given to the Supervisory Board. Due to the restrained business situation, information on the cost-cutting measures, both planned and implemented, the status of inventory reduction initiatives and the status of supplier relationships were regularly provided.

In all of the meetings held, the Supervisory Board was able to form a comprehensive insight into the short-, medium- and long-term corporate strategy and planning processes being employed for the entire AIXTRON Group through forecast reports and business development plans. Variances between the Company's budgetary planning and actual business performance were explained in detail.

The latest share price development and trends, analyst recommendations on the AIXTRON share, information on the share ownership structure, the USD/EUR exchange rate trend and the associated use of financial instruments to hedge against currency risks (hedging strategy) were also regularly discussed at the Supervisory Board meetings.

Between meetings, all Supervisory Board members received written monthly and detailed quarterly reports on the status of the Company. Through a secure intranet web portal, the Supervisory Board had access to internal and selected Company information, including internal control reports, meeting minutes, Company presentations, research analyst reports, analyst consensus reports, press releases and AIXTRON's financial reports. Furthermore, in numerous telephone calls and face-to-face meetings, both I, as Chairman of the Supervisory Board, the Chairman of the Audit Committee, and the Chair of the Technology Committee were promptly and comprehensively informed by the Executive Board about material developments and forthcoming decisions. I also had the opportunity to discuss topics such as strategy, planning, business development, risk situation, risk management and **COMPLIANCE** on a regular basis with the Executive Board.

All business transactions, which needed Supervisory Board approval, were presented in a timely manner by the Executive Board and, where appropriate, were approved after thorough consideration and examination.

At the first ordinary meeting of the year on February 29, 2012, the Financial Statements for AIXTRON SE as of December 31, 2011, the Consolidated Financial Statements as of December 31, 2011 and the respective Management Reports (including the Risk Report), the Auditors' Report and the report by the Audit Committee on the key audit results were extensively discussed by the Supervisory Board, then subsequently adopted and approved. We also discussed and approved for publication of the Company's Annual Report in Form 20-F, pursuant to United States Securities and Exchange Commission (SEC) rules, and passed resolutions for the General Shareholders' Meeting in 2012 (including the agenda, a resolution for the appropriation of net income coupled with the proposed dividend payment, the Supervisory Board report, and the appointment of an auditor for the Financial Statements and the Consolidated Financial Statements and the creation of a new stock-option program with relative performance targets). The same meeting discussed and approved the **CORPORATE GOVERNANCE** Report with the Declaration of Conformity dated February 2012 for publication in the Annual Report.

The meeting held on May 15, 2012 mainly served as a preparation for the Annual General Meeting.

At the meeting held on September 19, 2012, the Supervisory Board approved a proposed investment in a special project for the further development of organic **LED (OLED)** production equipment, in order to ensure that AIXTRON will be appropriately positioned to be able to compete in the emerging OLED market. The Supervisory Board will obtain regular updates on the progress of the project.

On December 5, 2012, AIXTRON SE's Supervisory Board held its last ordinary meeting of the year, in which, following an in-depth discussion, it approved the 2013 budget presented by the Executive Board, with the provision that the planned expenditures must be monitored regularly, along with the progress of the business. Among other elements, the budget includes sales revenues, income, financial and investment planning data, as well as planned personnel development. Finally, we decided on a new tranche of stock options to be potentially allocated to the Executive Board, senior management, selected key employees and highly qualified employees who may be hired in the future. Furthermore, we decided to renew the contract of Wolfgang Breme, Executive Vice President and Chief Financial Officer and, in this context, also decided on a new compensation scheme for this and future management contracts. The new compensation scheme takes into account the recommendations to apply a multi-year performance assessment as to the German Corporate Governance Code (DCGK) and the Appropriateness of Management Board Remuneration Act (VorstAG). Furthermore, the Supervisory Board reviewed and approved the amendment of the by-laws for the Supervisory Board and its committees to reflect the latest changes made to the German Corporate Governance Code.

The following additional topics were subjects of discussion and/or monitoring of the Supervisory Board during the four ordinary meetings (but did not necessarily require any formal resolutions):

- The establishment of a Corporate Strategic Business Development function
- The number and expertise of employees required in Research and Development
- An evaluation of the potential to set up a Customer Advisory Board in China
- AIXTRON's **SILICON** systems' business plans and performance
- An examination of the **MOCVD** equipment market share status quo

## COMMITTEES

The Supervisory Board currently has three committees, an Audit Committee, a Technology Committee and a Nomination Committee.

The Audit Committee is composed of a Chairman and two other members. After the resignation of Dr. Jürgensen on January 30, 2013 the seat was filled by Prof. Dr. von Rosen. As Chairman of the Audit Committee and independent member of the Supervisory Board Prof. Dr. Blättchen's expertise lies in reporting and audits (Sections 107(4) and 100(5) of the German Stock Corporation Act [AktG]) and includes specific knowledge and experience in the application of internal control procedures. The Audit Committee primarily deals with matters such as accounting, risk management, **COMPLIANCE**, the effectiveness of the internal control system and the internal audit system and implementation of the provisions of Section 404 of the **SARBANES-OXLEY ACT** (SOX 404), the auditor's mandate, the identification of areas to be audited and the auditor's fee arrangements, whilst also ensuring the necessary independence of the auditors. The Chairman of the Committee regularly reports to the Supervisory Board on the work of the Audit Committee.

The four Audit Committee meetings held during fiscal year 2012 (February 28, May 15, September 18 and December 4) were attended by all committee members. The Audit Committee members addressed the following issues:

- Review of the Statement of Independence and the Management Letter written by the auditors (main conclusions and recommendations from the 2011 annual audit of AIXTRON SE and AIXTRON Group accounts, as well as the internal control system)
- Risk screening, effectiveness of the risk management system and the internal audit system and risk management report (i.e. the Audit Committee found that the Executive Board had properly managed risk in accordance with Section 91(2) of the German Stock Corporation Act (AktG) and that the system had performed as required)
- The engagement of the auditing firm Deloitte & Touche to audit the 2012 annual financial statements and compliance, the separate financial statement according to the **GERMAN COMMERCIAL CODE** (HGB), the IFRS consolidated financial statements, the Company's Annual Report in Form 20-F and the risk management audit in accordance with IDW PS 340 as well as Section 7.2.3 of the German **CORPORATE GOVERNANCE** Code (DCGK) at AIXTRON SE
- Compliance issues: compliance training at AIXTRON's Asian subsidiaries; adjustments to the

- compliance manual; obtaining compliance statements from executives on a quarterly basis
- As part of the Information Security Management System (ISMS), implementing steps to reduce information risks
- Action plans to further reduce costs

The Technology Committee was also composed of three members. The Technology Committee deals in particular with questions involving AIXTRON's market positioning, product planning and developments, potential technology acquisitions or other diversification issues. The Committee Chair regularly reports to the Supervisory Board on the activities of the Technology Committee.

In fiscal year 2012 the Technology Committee held five meetings on February 28, April 20, May 15, September 18 and December 4. The Committee discussed in detail such technological questions as the development of production systems for manufacturing **OLEDs** for the **DISPLAY** market using large area **DEPOSITION** technology (including investment recommendations), potential improvements of existing product designs for **MOCVD** -systems, business progress after the market launch of the QXP-8300 **SILICON SEMICONDUCTOR** system and milestone planning for the development of new generations of products. Finally, the entire technology segment's organizational structure was closely examined and steps were taken to initiate changes that will favor more market- and process-oriented development.

The Nomination Committee that was convened on December 5, 2012 also consists of a Chair and two other members. In the event of needing to replace Board functions, the Committee makes nomination proposals to the Supervisory Board. In fiscal year 2012 the Nomination Committee held one meeting on December 19, 2012. In this meeting future appointments of Board functions were discussed.

## MONITORING OF THE MANAGEMENT

Due to the low business volumes during fiscal year 2012, we devoted significant attention to the Company's inventory situation, supplier relationships and the ongoing cost and process optimization, about which we were constantly informed by the Executive Board. The Executive Board explained and discussed in detail the factors that led to the EUR 51.5 million value adjustment in the third quarter.

We also addressed current and predicted market, product and technology issues, both in the area of **LED** production and other targeted end-markets.

During the reporting year, the Supervisory Board did not make use of its option to inspect the books and records of the Company, as provided for in Section 111(2) of the German Stock Corporation Act (AktG). There was no need to do so, given the regular, detailed and satisfactory reporting by the Executive Board, the review by and discussions with the auditors and the additional monitoring measures implemented as described.

## CORPORATE GOVERNANCE

The Supervisory Board regularly checks on the development of **CORPORATE GOVERNANCE** standards and, together with the Executive Board, writes a Corporate Governance report. We will continue to support the Executive Board in its efforts to maintain in full **COMPLIANCE** with the German Corporate Governance Code recommendations. Although the Government Commission on the German Corporate Governance Code proposed numerous changes to the Code in 2012, the current Declaration of Conformity stipulated by §161 of the German Stock Corporation Act (AktG), dated February 2013, states once again that AIXTRON is in full compliance with all the recommendations of the German Corporate Governance Code.

No conflicts of interest were reported by the members of the Executive Board.

## AUDIT AND ANNUAL FINANCIAL STATEMENTS

Following the resolution passed at the Company's General Shareholders' Meeting on May 16, 2012, the Supervisory Board has subsequently awarded the mandate to audit the annual accounts and the consolidated financial statements of both AIXTRON SE and the AIXTRON Group to Deloitte & Touche GmbH Wirtschaftsprüfungsgesellschaft, Düsseldorf, Germany, for the 2012 fiscal year.

The auditors also reviewed the Company's Annual Report in Form 20-F and the internal control system in accordance with SOX, as well as measures implemented by the Executive Board to detect, at an early stage, business risks that could potentially jeopardize the existence of the Company. It was also agreed that the auditors would, if necessary, inform the Supervisory Board or make a note in the audit report of any facts found during their investigation, which conflict with the Declaration of Conformity issued under Section 161 of the German Stock Corporation Act (AktG) given by the Executive Board and Supervisory Board. As in previous years, the auditors did not make any such note for fiscal year 2012.

The Financial Statements of AIXTRON SE as of December 31, 2012 and the Management Report were prepared in accordance with the requirements of the **GERMAN COMMERCIAL CODE** (Handelsgesetzbuch/HGB), while the Consolidated Financial Statements for the AIXTRON Group as of December 31, 2012 and the Consolidated Management Report were prepared in accordance with Section 315a of the German Commercial Code (HGB) on the basis of International Financial Reporting Standards (IFRS). The Financial Statements of AIXTRON SE and the Company's Consolidated Financial Statements were given an unqualified audit opinion. The auditors have determined that the Management Reports of both AIXTRON SE and the AIXTRON Group present a true and fair view of the current position and prospects of AIXTRON SE and the AIXTRON Group.

The Annual Financial Statement documents (Annual Financial Statements of AIXTRON SE and Consolidated Financial Statements as of December 31, 2012, including the Management Reports of the Company and the Group) and the audit reports by the auditors, were submitted to the Audit Committee and the Supervisory Board for examination in a timely manner. The Supervisory Board has closely examined these documents. The Annual Financial Statements of AIXTRON SE and the Consolidated Financial Statements for the AIXTRON Group, as well as the respective Management Reports, were discussed in detail at the Audit Committee and Supervisory Board Meeting on February 26, 2013, with due consideration given to the auditor's report. The auditors reported on the key audit results, which also covered internal control and risk management systems as they relate to the accounting process, and were available to answer any additional questions raised by the Audit Committee or Supervisory Board. The Supervisory Board also discussed the Annual Report Form 20-F as required by the U.S. Securities and Exchange Commission (SEC).

Following our own examination, we had no objections to the single-entity and Consolidated Financial Statements submitted; the respective Management Reports matched our own assessment of the Company and the Group's situation. We fully concurred with the auditors' results and opinion and consequently, in a resolution passed on February 27, 2013, we approved both the Annual Financial Statements of AIXTRON SE and the Consolidated Financial Statements of the AIXTRON Group prepared by the Executive Board for fiscal year 2012. The Annual Financial Statements of the Company and the AIXTRON Group are, therefore, formally adopted. Form 20-F is approved for filing with the SEC.

#### COMPOSITION OF THE EXECUTIVE BOARD AND THE SUPERVISORY BOARD

There were no changes to the Executive Board or Supervisory Board membership during the fiscal year 2012. In our meeting of December 5, 2012, we decided to renew the contract of Wolfgang Breme, Executive Vice President and Chief Financial Officer which originally expired on March 31, 2013 until March 31, 2016. Paul Hyland, Chairman, President and Chief Executive Officer resigned for personal reasons in mutual agreement as of February 28, 2013. Mr Martin Goetzeler will join the Company as Chief Executive Officer on March 1, 2013 as Mr Hyland's successor.

On January 30, 2013 Dr. Holger Jürgensen as well as Karl-Hermann Kuklies resigned their offices with immediate effect. The Nomination Committee is elaborating proposals for their replacement that will be presented by the Supervisory Board during the Annual General Meeting on May 23, 2013.

#### NOTE OF THANKS FROM THE SUPERVISORY BOARD

The Supervisory Board would like to thank the Executive Board and all Company employees for their personal commitment during this challenging fiscal year. In particular, we thank Mr Hyland for his contribution to the successful development of the Company and we wish him all the best for his future. The Supervisory Board would also like to thank all employee representatives for their constructive cooperation with the Company's management bodies. Similarly, the Supervisory Board would like to thank AIXTRON SE's shareholders for their continuing support and confidence in the Company.

Herzogenrath, February 2013  
AIXTRON SE

Kim Schindelhauer  
Chairman of the Supervisory Board

# DECLARATION OF CONFORMITY

In accordance with Section 161 AktG (German Stock Corporation Act), the Executive Board and the Supervisory Board of AIXTRON SE declare:

AIXTRON SE meets all recommendations of the Government Commission on the German **CORPORATE GOVERNANCE** Code (Regierungskommission "Deutscher Corporate Governance Kodex"), published by the Federal Ministry of Justice (Bundesministerium der Justiz) in the official portion of the German Federal Gazette (Bundesanzeiger on May 15, 2012).

The Company intends to remain fully compliant in the future.

Since the last declaration of conformity of February 2012, AIXTRON SE fully complied with the recommendations of the German Corporate Governance Code version dated May 26, 2010.

Herzogenrath, February 2013

**AIXTRON SE**

For the Executive Board of AIXTRON SE

**Paul Hyland**  
Chairman and Chief Executive Officer

For the Supervisory Board of AIXTRON SE

**Kim Schindelhauer**  
Chairman of the Supervisory Board



# CORPORATE GOVERNANCE REPORT

## 1 DECLARATION ON CORPORATE GOVERNANCE

### DECLARATION OF CONFORMITY

In accordance with Section 161 AktG (German Stock Corporation Act), the Executive Board and the Supervisory Board of AIXTRON SE declare:

AIXTRON SE meets all recommendations of the Government Commission on the German **CORPORATE GOVERNANCE** Code (Regierungskommission "Deutscher Corporate Governance Kodex"), published by the Federal Ministry of Justice (Bundesministerium der Justiz) in the official portion of the German Federal Gazette (Bundesanzeiger) in the version dated May 15, 2012.

The Company intends to remain fully compliant in the future.

Since the last declaration of conformity of February 2012, AIXTRON SE fully complied with all of the recommendations of the German Corporate Governance Code version dated May 26, 2010.

Herzogenrath, February 2013

**AIXTRON SE**

For the Executive Board of AIXTRON SE

For the Supervisory Board of AIXTRON SE

**Paul Hyland**

Chairman and Chief Executive Officer

**Kim Schindelhauer**

Chairman of the Supervisory Board

### INFORMATION REGARDING 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, the immediate internal reporting of breaches of the Code where necessary and to ensure accountable responsibility for compliance with the Code. The complete text of the Code may be found on the **AIXTRON website**.

In addition, AIXTRON has issued a **Compliance Code of Conduct** applicable to the Company's Executive and Supervisory Boards, as well as all employees in all Company offices throughout the world and holds them accountable to conduct that is required to be conscientious and in conformity with the law. Amongst the topics addressed, this Code covers the following issues: responsibility and respect towards society and the environment, compliance with overall 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 aware manner, security in all operating areas, working in a professional manner, reliability and fairness in all business relationships, compliance with guidelines on giving/taking unfair

advantage, dealing with insider information and the treatment of Company property. In addition, due to particular specifications set by **NASDAQ**, AIXTRON SE has a separate NASDAQ-Code of Conduct. The full text of the Code of Conduct may also be downloaded from the AIXTRON website.

In 2010, AIXTRON first issued a **Compliance Manual** which applies to all members of the Company's senior management. This manual, which was updated in 2012 which, is the basis for the principles of the Compliance Code of Conduct, provides a detailed view on all important areas of compliance and requirements deriving therefrom, applying to the Executive Board, the Supervisory Board and the employees. It is regularly being updated to reflect legal changes. By signing each quarter, a representation letter, the senior managers thereby confirm that within their area of responsibility all compliance requirements were respected. Furthermore, they declare that in case of an update of the Compliance Manual, they will take note of the updated version, follow and communicate its contents within their area of responsibility.

## EXECUTIVE BOARD AND SUPERVISORY BOARD OPERATING PROCEDURES:

### ... COMPOSITION AND MODE OF OPERATION OF COMMITTEES

As a European Company (Societas Europaea), AIXTRON SE is subject not only to the German Stock Corporation Act, but also to the superseding European SE regulations (SE-VO) and the German SE Implementation Act (SE-Ausführungsgesetz). The Company has a dual management and supervisory board structure consisting of an Executive Board and a Supervisory Board.

### EXECUTIVE BOARD

Pursuant to the guidelines set forth in the German Stock Corporation Act, which are also valid for AIXTRON SE, via the SE statutes, the Executive Board of AIXTRON SE is responsible for the management of the Company and informs the Supervisory Board regularly, comprehensively and without delay, of any appropriate issues or developments regarding business trends, corporate planning and strategy, and on the Company's risk status.

According to Article 8 of AIXTRON SE's Articles of Association, the Executive Board is to comprise of two or more persons.

The Supervisory Board determines the precise number of Executive Board members, decides whether there should be a Chairman and whether deputy members or a Deputy Chairman should be appointed.

AIXTRON SE's Executive Board comprises of the following members:

Name	Position	First Appointment	Term ends
Paul Hyland	Chairman, President & Chief Executive Officer	April 1, 2002	February 28, 2013
Martin Goetzeler	Chairman, President & Chief Executive Officer	March 1, 2013	February 28, 2017
Wolfgang Breme <sup>1)</sup>	Executive Vice President and Chief Financial Officer	April 1, 2005	March 31, 2016
Dr. Bernd Schulte	Executive Vice President and Chief Operating Officer	April 1, 2002	March 31, 2015

<sup>1)</sup> Appointment was renewed on December 5, 2012 until March 31, 2016.

Notwithstanding the Executive Board's statutory joint and several liability and the obligation of its members to collaborate closely and in confidence with their colleagues, the assigned responsibilities of individual members of the Executive Board are as follows:

AIXTRON's President and Chief Executive Officer chairs and coordinates the tasks of the Executive Board and is additionally responsible for the corporate operations in the AIXTRON Group, focusing in particular on Strategic Planning, Investor Relations Management & Communication, Manufacturing, Procurement & Logistics. The Chief Financial Officer, in addition to Group Finances and Reporting, is also responsible for **CORPORATE GOVERNANCE & COMPLIANCE**, IT, Human Resources, Legal & Risk Management and Facilities Management. The Chief Operating Officer is responsible for the Group's Marketing, Technology

Development, Business Development and Sales activities.

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 listing of matters which are of fundamental or substantial importance and about which the Executive Board is required to make formal resolutions. Examples of such material decisions requiring formal resolutions are: Company strategies, corporate planning 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 or cooperation agreements; the commissioning of material 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 public consumption above and beyond normal reporting requirements; the initiation of lawsuits and legal disputes; the granting of collateral and assumption of guarantees.

In addition, the Executive Board rules of procedure and the Articles of Association, respectively, contain lists 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, but are not limited to, decisions to build or dispose of operating sites or land; the starting or ending business activities; granting or taking out of loans, etc.

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 an Executive Board meeting to be convened for a specific issue. If the Chairman cannot attend, the meeting shall be chaired by a Board member appointed by the Chairman. The Executive Board shall be deemed to have a quorum if all members have been invited and more than half of the members are able to participate in person, via telephone link or by videoconference when resolutions are being voted on. The Executive Board makes decisions by a simple majority of the votes cast by the members involved in the meeting unless otherwise determined by law, the Articles of Association and by-laws. In the case of a tie, the Executive Board Chairman casts the deciding vote.

Every Executive Board members must immediately disclose actual or imminent conflicts of interest to the Supervisory Board and other members of the Executive Board. Members of the Executive Board may only take on sideline activities, especially posts on company and supervisory boards outside the Group, after receiving Supervisory Board approval.

## SUPERVISORY BOARD

The Supervisory Board is responsible for the appointment and employment terms of the Executive Board members and oversees and advises the Executive Board with regard to its management duties.

Pursuant to Article 11 of AIXTRON SE's Articles of Association, the Supervisory Board consists of six members. The General Shareholders' Meeting can specify any other number of Supervisory Board members, providing that the total is divisible by three. The members of the Supervisory Board are generally appointed for a period of four years and until the end of the General Shareholders' Meeting, in which the shareholders represented, resolve on the approval of the Supervisory Board's activities for the fourth fiscal year after the term of office begins. Following the recommendation of the Nomination Committee, the following members of the AIXTRON Supervisory Board were elected by the shareholders at the Annual General Meeting 2011. The term of office of this Supervisory Board ends as of the close of the 2016 Annual General Shareholders' Meeting.

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 Supervisory Board meetings.

At the end of fiscal year 2012, AIXTRON's Supervisory Board comprised of the following six members:

Name	Position	Member	End of
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		since	term
Kim Schindelhauer <sup>1)2)3)4)</sup>	Chairman of the Supervisory Board	2002	AGM 2016
Dr. Holger Jürgensen <sup>1)2)4)6)</sup>	Deputy Chairman of the Supervisory Board	2002	AGM 2016
Prof. Dr. Wolfgang Blättchen <sup>1)</sup>	Chairman of the Audit Committee, independent Financial Expert <sup>5)</sup>	1998	AGM 2016
Prof. Dr. Petra Denk <sup>2)3)</sup>	Chair of the Technology Committee	2011	AGM 2016
Karl-Hermann Kuklies <sup>6)</sup>		1997	AGM 2016
Prof. Dr. Rüdiger von Rosen <sup>3)</sup>	Chairman of the Nomination Committee	2002	AGM 2016

1) Member of the Audit Committee

2) Member of the Technology Committee

3) Member of the Nomination Committee

4) Former member of the AIXTRON Executive Board

5) since 2005

6) Resignation as of January 30, 2013

On January 30, 2013, Dr. Holger Jürgensen and Karl-Hermann Kuklies resigned from their positions in the Supervisory Board with immediate effect. The vacancy in the Audit Committee was filled by Prof. Dr. von Rosen. The vacant seat in the Technology Committee will be filled after the Annual General Meeting in May 2013. From January 30, 2013 until the Annual General Meeting on May 23, 2013 the Supervisory Board constitutes a quorum even with only four members.

An independent and appropriately experienced Supervisory Board member has chaired the Audit Committee since 2005 (pursuant to item 5.3.2 of the German **CORPORATE GOVERNANCE** Code/GCGC). The Technology Committee was constituted on May 19, 2011.

The Company is in **COMPLIANCE** with the requirement for diversity on the Supervisory Board (item 5.4.1 GCGC) due to the broad range of skills of individual Supervisory Board members (in the areas of finance, capital markets, M&A and technology and market experience). In addition, the ratio of female members met the target requirements set in 2010.

The Supervisory Board shall include what they consider to be an adequate number of independent members. Within the meaning of Section 5.4.2 of the Code a Supervisory Board member will not to 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 Boards targets that at least half of its members shall be independent. All members of the Supervisory Board, which as of January 30, 2013 and until the Annual General Meeting in May 2013 exclusively consists of elected shareholder representatives, are independent within the meaning of the Code. Consequently the target of the number of independent members is also achieved.

As required under item 5.4.2 of the German Corporate Governance Code, the Supervisory Board includes no more than two former Executive Board members.

Prior to the Supervisory Board Meeting on December 5, 2012, each Supervisory Board member received the annual questionnaire from the Chairman, examining the efficiency of Supervisory Board's activities. Based on its evaluation of the returned questionnaires, the Supervisory Board resolved that it is acting efficiently in accordance with item 5.6 of the Code.

Other directorships held by Executive and Supervisory Board members are listed under Note 36 "Supervisory Board and Executive Board" in the Notes to the Consolidated Financial Statements.

The Company did not initiate or conclude any binding material transactions with related parties during the fiscal year 2012.

The Supervisory Board has adopted its own set of by-laws governing Supervisory Board duties, rights and organization procedures for meetings and resolutions, including the formation of appropriate committees. The Audit Committee and the Technology Committee both operate according to separate by-law requirements approved by the Supervisory Board. All sets of by-laws have recently been amended to reflect the latest changes made to the German Corporate Governance Code.

The Supervisory Board, like the Audit Committee and Technology Committee, generally holds four ordinary meetings per year. The Nomination Committee convenes as and when necessary.

As requested by the Chairman of the Supervisory Board, the Executive Board participates in all Supervisory Board meetings, 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, monthly and 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 promptly and comprehensively informed by the Executive Board about relevant material developments and forthcoming decisions on material issues.

Resolutions of the Supervisory Board and the Supervisory Board Committees are generally passed during formally convened meetings. In exceptional cases, Supervisory Board members may, if justified, participate in a board or committee meeting remotely via telephone or video conference. All bodies are deemed to have a quorum if two-thirds, or in the case of the Supervisory Board, at least three members, are able to participate in person or outside of formal meetings, if no objections are raised by any member, remotely, via a telephone link or via a proxy to vote on resolutions. Resolutions are adopted if a majority of the votes cast are in favor. In the case of a tie, the Chairman of the body casts the deciding vote.

Every member of the Supervisory Board must disclose potential and actual conflicts of interest to the Supervisory Board, especially those conflicts arising from a consulting contract or board function for a customer, supplier, creditor, or other business partner. If a material, beyond temporary, conflict of interest involving a Supervisory Board member cannot be resolved to the satisfaction of the Supervisory Board, it will result in that member being required to resign.

#### EXECUTIVE AND SUPERVISORY BOARD COOPERATION

As in previous years the Executive Board and the Supervisory Board worked closely together throughout 2012 for the benefit of the business enterprise. Their joint goal is to increase the sustainable value of the Company.

AIXTRON SE has a two-tier governance system characterized by a clear separation of management and supervisory functions. The Executive Board is responsible for managing the Company and informs the Supervisory Board regularly, comprehensively and without delay about all relevant issues or developments involving planning, business trends, the Company's risk situation, risk management and **COMPLIANCE**.

The Supervisory Board appoints the members of the Executive Board and oversees and advises the Executive Board in its management duties. For 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. When concluding, amending or terminating material 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 report all material events to the Supervisory Board.

#### OPERATING PROCEDURES AND COMPOSITION OF COMMITTEES

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

The Supervisory Board of AIXTRON SE currently has three committees: the Audit Committee, the Technology Committee and the Nomination Committee.

The Audit Committee is composed of a Chairman, who is an independent member and whose area of expertise is reporting and audits (as required by law: Articles 107(4); 100(5) German Stock Corporation Act/AktG) and two other members (After his resignation Dr. Jürgensen has been replaced by Prof. Dr. von Rosen). The by-laws for the Supervisory Board specify that the Audit Committee is responsible, in particular, for preparing, on behalf of the Supervisory Board, proceedings and resolutions concerning accounting issues, the accounting process and the effectiveness of the internal control system, the risk management system, the internal audit system, supervising the audit of the financial statements (specifically ensuring the independence of the auditors and any additional services performed by the auditors) and the overseeing of **COMPLIANCE** issues. In addition, the Audit Committee is responsible for issuing the mandate to audit the annual accounts and the consolidated Group accounts and to carry out

any necessary examination of interim reports of AIXTRON SE; in order to identify the required main focus areas of the audit and for agreeing on the fee arrangements with the auditors. The Audit Committee forwards to the Supervisory Board its recommendation on which auditing firm should be appointed as auditor.

The Technology Committee is composed of a Chair and two other members. The Technology Committee deals, in particular, with questions of AIXTRON's market positioning, product planning and development, potential technology acquisitions and other topics relating to diversification.

The Nomination Committee also consists of a Chair and two other members. In the event of needing to replace one of the Supervisory Board functions, the Committee makes nomination proposals to the Supervisory Board.

The interaction and cooperation of the Executive Board, the Supervisory Board and its committees during fiscal year 2012 are further described in the Supervisory Board Report which is also part of this Company's Annual Report which can be downloaded from the AIXTRON corporate website.

## 2 CORPORATE GOVERNANCE REPORT

### REPORT ON CORPORATE GOVERNANCE FROM THE EXECUTIVE AND SUPERVISORY BOARDS

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

Both this Corporate Governance Report, prepared in accordance with item 3.10 of the German Corporate Governance Code ("Code"/GCGC), and the joint Declaration of Conformity, issued by the Executive Board and the Supervisory Board pursuant to Article 161 of the German Stock Corporation Act (AktG) in February 2013, are published in the Annual Report and on the AIXTRON corporate website in German and English. AIXTRON also retains previous Declarations of Conformity on its website for a period of five years.

#### FULL COMPLIANCE

AIXTRON has complied with all recommendations of the German CORPORATE GOVERNANCE Code and continued this practice during the reporting year 2012. Our internal monitoring and control systems, which have been regularly tested and are continuously kept up to date, comply with Section 404 of the SARBANES-OXLEY ACT and provide us with support in meeting our COMPLIANCE responsibilities.

The Government Commission on the German Corporate Governance Code made numerous changes to the Code in 2012. The German Corporate Governance Code in the version dated May 15, 2012 was published by the Federal Ministry of Justice on June 15, 2012.

Our current Declaration of Conformity dated February 2013 again confirms that AIXTRON is fully compliant with all recommendations of the German Corporate Governance Code. The Company also complies with nearly all suggestions of the Code.

#### DIVERSITY

As stipulated by the Code, AIXTRON has set clear targets with regard to appropriate diversity in the management of the Company (German CORPORATE GOVERNANCE Code, Sections, 5.1.2 and 5.4.1).

Against the background of demographic change and the associated effect of a lack of sufficient qualified staff in Germany, AIXTRON has consistently striven for further increases in the percentage of women and the international composition of its employees and management. Nevertheless, the Company's primary commitment is to ensure that those persons employed possess the required experience and qualifications necessary to meet the needs of the business.

#### COMPOSITION OF THE SUPERVISORY BOARD

As early as in 2010, the Supervisory Board listed a set of required qualities for future appointments of Supervisory Board members. These requirements have recently been amended reflecting the changes in the **CORPORATE GOVERNANCE** Code, specifically regarding the independence of Supervisory Board members. The detailed requirements are as follows:

- With respect to nominations of Supervisory Board members, the Nomination Committee shall ensure that the Supervisory Board at all times 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 will strive to enhance the efficiency and transparency of the selection process. As a general rule, the Supervisory Board members are nominated for election for the longest possible period in **COMPLIANCE** with the Companies' Articles of Association.
- AIXTRON currently exports more than 90% of its products overseas and almost 75% thereof to Asia and consequently; international experience in the electronics and lighting appliances markets that are specific to AIXTRON's areas of interest would be of the greatest benefit to the Company.
- As a general rule, new members of the Supervisory Board should not be older than 70 when they retire from the Supervisory Board. When elected, they should be available to the Company for at least two election periods.
- The aim should be that the individual Supervisory Board members will have training, qualification, expertise and international experience that is as diverse as possible so that collectively they will have the necessary knowledge, skills and experience required to perform their tasks properly. Company and product oriented relevant 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, audit of annual financial statements, corporate development, **CAPITAL MARKET**, technology, special machine production, markets, sales, lighting, etc. is of benefit.
- 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 both genders in order to remain competitive in all of our chosen global markets. The Supervisory Board aims for an appropriate participation of circa 20% by women in the Supervisory Board.
- The Supervisory Board shall include what it considers to be an adequate number of independent members. Such members shall not have any business or personal relationships with the Company or its Executive Board, nor any controlling shareholder or company affiliated interests with such shareholders, that might constitute a material and not merely temporary conflict of interest.
- At least half of the Supervisory Board members should be independent.
- The Supervisory Board shall not have more than two former members of the Executive Board amongst its members at any one time.
- 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.
- The Supervisory Board must have at least one independent member with expertise in accounting, internal control processes and auditing of annual financial statements. This Supervisory Board

member will be required to also be 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 delivered 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. For reasons of convenience and efficiency, the aim is to give preference, but not exclusivity, to candidates who are based in Germany or in other parts of Europe.

Additional information regarding the composition of the Supervisory Board can also be found in the Section of Chapter 1.3 entitled "Supervisory Board".

The Executive Board and Supervisory Board of AIXTRON SE are convinced that the Supervisory Board fully complies with its own and the Code's requirements of appropriate diversity and independence of Supervisory Board members.

For the purposes of continuing education, as part of further professionalization of the Supervisory Board, its members have taken part in advanced training in connection, both with their functions as Supervisory Board members, as well as their other professional activities.

## SHAREHOLDERS AND GENERAL SHAREHOLDERS' MEETING

The 2012 General Shareholders' Meeting was held in Aachen on May 16, 2012. The invitation to the General Shareholders' 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 General Shareholders' Meeting and the exercise of voting rights. Holders of the Company's ADS (American Depositary Shares) received special proxy voting forms within the required timeframe. All reports and documentation required by law were available on AIXTRON's website, [www.aixtron.com](http://www.aixtron.com), from the date the General Shareholders' Meeting was convened. In COMPLIANCE with item 2.3.4 of the GCGC, certain parts of the General Shareholders' Meeting (the opening of the meeting, the speech and the presentation of the Executive Board members) of the General Shareholders' Meeting were broadcast live via webcast. Directly following the Annual Shareholders' Meeting, the Company published attendance figures and the voting results in a press release, as well as on its website.

Seven out of eight agenda points required approval. All of the resolutions were approved with the support of at least 88.6% of the voters entitled to vote, with around 42% of AIXTRON share capital being represented at the General Shareholders' Meeting. Under agenda item 2, a resolution was passed to distribute a dividend of EUR 0.25 per share for the 2011 fiscal year. Under agenda item 6, the General Shareholders' Meeting passed a resolution authorizing new Authorized Capital 2012 in the amount of up to EUR 10,422,817. Under agenda item 7, the shareholders authorized the Executive Board to create Conditional Capital I 2012 in the amount of up to EUR 40,715,810 and to issue warrants and/or convertible bonds. Under agenda item 8, the General Shareholders' Meeting authorized the Executive Board to issue stock options under the 2012 stock option plan and approved the creation of new Conditional Capital II 2012 in the amount of up to EUR 4,208,726 to satisfy the 2012 AIXTRON stock option plan.

## SHARES HELD BY EXECUTIVE AND SUPERVISORY BOARD MEMBERS

As of December 31, 2012, members of AIXTRON SE's Supervisory Board at that time held, directly and indirectly, a total of 8,421,529 million ordinary shares, or 8.3% of the Company's share capital, which amounted to EUR 101,975,023 at year's end.

As of December 31, 2012, the AIXTRON Executive Board did not directly or indirectly hold any shares issued by the Company. The options held by Executive Board members under stock option plans are set out and explained in the Remuneration Report in the Notes to the Annual Financial Statements.



Information regarding the purchase and sale of AIXTRON SE shares by persons performing managerial responsibilities according to Article 15a of the **GERMAN SECURITIES TRADING ACT** (Wertpapierhandelsgesetz or WpHG) is published on the AIXTRON website under the category "Investors/ **CORPORATE GOVERNANCE**/Directors' Dealings" without undue delay after the Company has been formally notified. In fiscal year 2012, three such transactions were published, where a total of 133,500 AIXTRON shares were sold directly and 39,000 shares was sold through the exercise of stock options.

## TRANSPARENCY

In the interest of maximum transparency, shareholders, shareholder associations, potential investors, financial analysts and the media are regularly and promptly informed of the AIXTRON Group's business developments. The internet is the primary communication channel used for this purpose.

Reporting 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:

- A live webcast of the opening of the Annual Shareholders' Meeting, the Chairman of the Supervisory Board's speech to the Shareholders and the presentation of the Executive Board members
- The Annual Report with the Group Annual Report, the Group Management Report and the Supervisory Board Report
- The SE's Annual Financial Statements and the related Management Report
- The explanatory report by the Executive Board pursuant to Sections 289 para. 4 and 315 para. 4 of the **GERMAN COMMERCIAL CODE** (HGB)
- The annual report on Form 20-F for the United States Securities and Exchange Commission ("SEC")
- Interim financial reports
- Transcripts or audio files of quarterly conference calls for the press and analysts
- Company presentations
- Ad-hoc and corporate news releases
- Forms 6-K for the SEC
- Marketing releases

Important recurring dates, such as the date of the General Shareholders' Meeting or the publication dates of financial reports, are detailed in the Company's financial calendar. This and the above mentioned reports, speaker notes, presentations, webcasts and press releases are available on the Company's website for a limited period of time.

## REPORTING AND AUDIT

The Group interim financial reports as of March 31, June 30, and September 30, 2012 and the Consolidated Financial Statements for the period ending on December 31, 2012 have been prepared in accordance with IFRS (International Financial Reporting Standards). The separately reported parent-company Annual Financial Statements 2012 for AIXTRON SE, are prepared in accordance with German accounting standards (HGB) and the requirements of the German Stock Corporation Act (Aktiengesetz, or AktG).

The Consolidated Annual Financial Statements and parent-company's Annual Financial Statements were audited by the appointed external auditor and approved by the Supervisory Board. The auditor agreed that the Chairman of the Supervisory Board or the 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. No such material events were recorded in the current year.

## STOCK OPTION PLANS

AIXTRON has a total of five stock option plans, under which options are or have been issued for the acquisition of AIXTRON shares or ADS (American Depositary Shares) to members of the Executive Board, managers and Company employees.

From the newly established 2012 Stock Option Plan, no stock options were issued during the reporting year. In accordance with the amended Article 193 Paragraph 2 No. 4 AktG of the Act on the Appropriateness of Management Board Remuneration (VorstAG, Gesetz zur Angemessenheit der Vorstandsvergütung), the options under the 2012 Stock Option Plan can only be exercised, at the earliest point in time, after a waiting period of four years. In addition to an absolute performance target, stock options issued to members of the Executive Board contain a relative exercise threshold with the TecDAX as a comparison parameter. The maximum term of the stock options is 10 years.

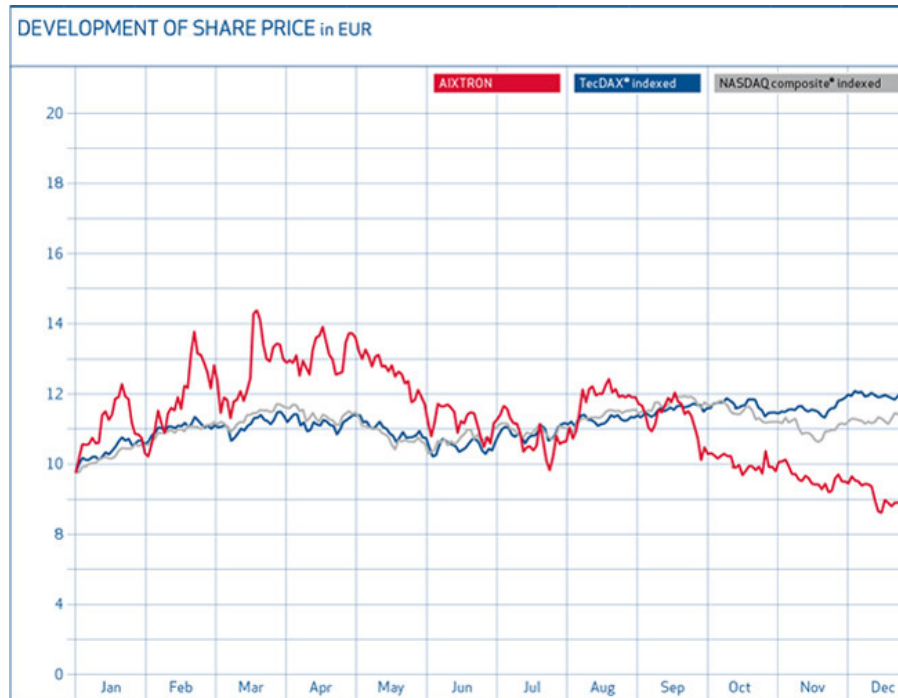
From the 2007 Stock Option Plan a tranche (tranche 2012) was authorized during the reporting year, within which 31,000 new stock options were issued. Each stock option grants the right to subscribe to one AIXTRON share. 50% of the allocated stock options can be exercised after a waiting period of at least two years, another 25% after at least three years and the remaining 25% after a waiting period of at least four years.

As at December 31, 2012, the 2012 tranche of the 2012 stock option plan as well as the 2007, 2008, 2009, 2010, 2011 and 2012 tranches of the 2007 stock option plan and the previous stock option plans (AIXTRON 1999 and 2002 plans and Genus Stock Option Plan 2000) still had outstanding options to subscribe to 4,274,126 AIXTRON shares or ADS.

A more detailed description of the individual stock option plans and a summary of all the stock option transactions can be found in Note 23 of the Notes to the Consolidated Financial Statements, "Share-based payment".

# THE AIXTRON SHARE

AIXTRON's share price experienced significant volatility during 2012, reflecting a general uncertainty in the equity markets and, more specifically, because of an ongoing hesitancy by LED manufacturers to invest into new manufacturing capacity.



## AIXTRON SHARE PRICE PERFORMANCE

The AIXTRON share price started the year well, increasing nearly 50% within the first quarter to reach a 2012 high of EUR 14.45 (USD 19.15) on March 15. However, despite a positive tone from AIXTRON Management when Q1/2012 results were released at the end of April, growing concerns on Eurozone fiscal stability dominated the wider stock markets, causing a decline in major indices and AIXTRON's share price.

When the Company reported its H1/2012 results at the end of July, AIXTRON's share price rallied once again. Expectations of an imminent order recovery were further fuelled by announcements from LED manufacturers, reporting high production utilization rates. The rally however was short-lived. In reviewing the outlook, AIXTRON Management concluded that with LED manufacturers remaining hesitant to invest in new equipment, AIXTRON would not be able to achieve profitability during 2012 and advised the markets of that consequence when reporting the Q3 results in October.

In Q4/2012, AIXTRON's share price continued to drift lower, on the back of lower-than-expected order intake increase and the 2012 year end loss making guidance given by Management, reaching a 2012 low of EUR 8.71 (USD 11.42) on December 12, 2012. This was against a generally positive macro trend in the quarter, as equity markets acknowledged the combined effort by major economies to tackle the on-going fiscal challenges.

AIXTRON shares ended the year at EUR 8.88 (-9.9% year-on-year) in Germany and USD 11.95 (-5.9% year-on-year) in the US (versus 2011 closing prices of EUR 9.85 and USD 12.70), resulting in a market capitalization of approximately EUR 900 million. In comparison, the TecDAX® Index increased by 21.4% from 682.4 points to 828.1 over the year and the NASDAQ Composite® Index increased by 16% from

2,605.2 points to 3,019.5 points at the end of 2012.

## INVESTOR RELATIONS

AIXTRON shares are listed in the **PRIME STANDARD** segment of the Frankfurter Wertpapierbörse and – in form of American Depositary Shares – on the **NASDAQ**® Global Select MarketSM. In line with the US listing requirements, AIXTRON complies with strict American transparency guidelines. Shares are included in many important indices, such as the TecDAX®, the NASDAQ Composite® and the STOXX® 600 Index. In addition, it is included in sustainability indices, such as the Dow Jones Sustainability Index and the Natur Aktien Index.

AIXTRON Management has decided for and from fiscal year 2012, for both cost reduction and environmental benefits reasons, that the Company will no longer routinely print and circulate the AIXTRON annual report, thereby significantly reducing CO<sub>2</sub> emissions of about 5 tons. The Company however remains fully committed to ensure that all of the necessary information disclosure and transparency requirements are complied with. The new online report, available directly via the Company's website, provides even additional features and functionality, including custom configuration options and comparisons of key figures. We believe that this change represents a more modern and improved service to our shareholders and we remain fully dedicated to providing our shareholders and the capital markets with accurate, timely and relevant information on both our own direct business and general market developments. In addition AIXTRON remains committed to complying with principles of good **CORPORATE GOVERNANCE**.

We continue to regularly publish press releases and key financial figures into the public domain that inform shareholders and the capital markets on the current status, environment and perceived outlook for AIXTRON's business. In addition, AIXTRON regularly participates in numerous major investor conferences and road shows in the world's most important financial centers. Through these conferences, it hosts discussions on current financial results, strategies, products, as well as industry and market trends with institutional and private investors, journalists and financial analysts. At year-end 2012, a total of 30 analysts (2011: 35), of whom 21 are based in Europe and nine in the US, commented on the Company on a regular basis as part of their official coverage of the stock.

During fiscal year 2012, AIXTRON logged over 164 man-days reporting to the financial markets through Company visits, individual meetings, investor conferences and road shows worldwide, conducting close to 500 personal discussions and teleconferences with leading players in the financial markets. On request, the Investor Relations department also sent out over 420 annual reports during the year and additionally maintained an active dialogue with many individual and institutional shareholders and stakeholders.

In 2012, AIXTRON's investor relations work was once again recognized by the annual survey of Thomson Reuters Extel and the German Investor Relations Association DIRK. According to fund managers and buy-side and sell-side analysts worldwide, AIXTRON was ranked number three among all TecDAX® companies (2011: rank 2), receiving the award at the 2012 German IR Prize Ceremony in Frankfurt in June.

AIXTRON's Executive and Supervisory Boards were very pleased at being able to welcome, yet again, a significant number of shareholders to AIXTRON's Annual General Meeting. On May 16, 2012, more than 500 shareholders and visitors attended the meeting in Aachen, many of whom regularly attend the Company Meeting, and the Company's Management provided them with a comprehensive report on the status and prospects of the Company.

## SHAREHOLDER STRUCTURE

As of December 31, 2012, approximately 22% of AIXTRON's shares were held by private individuals, with around 78% held by institutional investors. While most of the private shareholders are based in Germany, the majority of institutional investors (around 25%) are in the UK, followed by the US (19%) and Germany (16%). The remaining investors are located throughout other parts of Europe and the rest

of the world. In 2012, AIXTRON's largest, non-institutional shareholder continued to be Camma B.V. (Renesse, Netherlands), holding 7.5% of AIXTRON stock. Around 92.5% of the shares were free float, according to the definition of the Deutsche Börse. As of December 31, 2012, AIXTRON's shares ranked number 10 in market capitalization (December 2011: 6) and number 1 in transaction turnover (December 2011: 1) in the Deutsche Börse TecDAX® Technology Index Ranking.

At the year-end, the following investors had shareholdings in AIXTRON SE exceeding the 3% reporting threshold (shares held as of the reporting date, pursuant to Section 26 (1) of the **GERMAN SECURITIES TRADING ACT**/WpHG):

// Camma B.V., Renesse, Netherlands 7.5%

// Allianz Global Investors Europe GmbH, Frankfurt am Main, Germany, 5.1%

// Baillie Gifford & Co, Edinburgh, UK, 5.0%

// Vanguard International Growth Fund, Wayne, USA, 3.3%

// Generation Investment Management LLP, London, UK, 3.0%

# GROUP MANAGEMENT REPORT

## GROUP MANAGEMENT REPORT AS OF DECEMBER 31, 2012

This Management Report relates to the Consolidated Financial Statements of AIXTRON SE (formerly AIXTRON AG) including the following subsidiaries (collectively referred to as "AIXTRON", "the AIXTRON Group", "the Group" or "the Company"): AIXTRON, Inc., Sunnyvale, California (USA); AIXTRON Ltd., Cambridge (United Kingdom); Nanoinstruments Ltd. (United Kingdom); AIXTRON AB, Lund (Sweden); AIXTRON Korea Co. Ltd., Seoul (South Korea); AIXTRON China Ltd., Shanghai (PR of China); AIXTRON KK, Tokyo (Japan); and AIXTRON Taiwan Co. Ltd., Hsinchu (Taiwan).

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

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

### FORWARD-LOOKING STATEMENTS

This document may contain forward-looking statements regarding the business, results of operations, financial condition and earnings outlook of AIXTRON within the meaning of the safe harbor provisions of the US Private Securities Litigation Reform Act of 1995. 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 our current views and assumptions and are subject to risks and uncertainties. You should not place undue reliance on these forward-looking statements. Actual results and trends may differ materially from those reflected in our forward-looking statements. This could result from a variety of factors, such as actual customer orders received by AIXTRON, the level of demand for **DEPOSITION** technology in the market, the timing of final acceptance of products by customers, the condition of financial markets and access to financing for AIXTRON, general conditions in the market for deposition plants and macroeconomic conditions, cancellations, rescheduling or delays in product shipments, production capacity constraints, extended sales and qualification cycles, difficulties in the production process, the general development in the semi-conductor industry, increased competition, fluctuations in exchange rates, availability of public funding, fluctuations and/or changes in interest rates, delays in developing and marketing new products, a deterioration of the general economic situation and any other factors discussed in any reports or other announcements filed by AIXTRON with the U.S. Securities and Exchange Commission. Any forward-looking statements contained in this document are based on current expectations and projections of the Executive Board and on information currently available to it and are made as at the date hereof. 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.

## 1 BUSINESS AND OPERATING ENVIRONMENT

### 1.1. ORGANIZATIONAL STRUCTURE

The table below shows a list of the AIXTRON subsidiaries as of December 31, 2012:

Name	Jurisdiction of Incorporation	Ownership Interest in %
AIXTRON Ltd.	England & Wales	100%
AIXTRON AB	Sweden	100%
AIXTRON Korea Co. Ltd.	South Korea	100%
AIXTRON KK	Japan	100%
AIXTRON China Ltd.	China	100%
AIXTRON Taiwan Co. Ltd.	Taiwan	100%
AIXTRON, Inc.	USA	100%
Nanoinstruments Ltd.	England & Wales	100%
Genus Trust <sup>1)</sup>	USA	n.a.

<sup>1)</sup> The shares in the Genus Trust are attributed to AIXTRON as the beneficial owner, as control exists due to the trust relationship with AIXTRON SE

## 1.2. MANAGEMENT AND CONTROL

As of December 31, 2012, AIXTRON's Executive Board ("Management") consisted of the following three individuals:

Name	Position	First Appointment	End of Term
Paul Hyland	Chairman, President and Chief Executive Officer	April 1, 2002	February 28, 2013
Wolfgang Breme <sup>1)</sup>	Executive Vice President and Chief Financial Officer	April 1, 2005	March 31, 2016
Dr. Bernd Schulte	Executive Vice President and Chief Operating Officer	April 1, 2002	March 31, 2015

<sup>1)</sup> Was reappointed as of December 5, 2012

As of December 31, 2012, AIXTRON's Supervisory Board consisted of the following six individuals:

Name	Position	Member since	End of Term
Kim Schindelhauer <sup>1)2)3)4)</sup>	Chairman of the Supervisory Board	2002	AGM 2016
Dr. Holger Jürgensen <sup>1)2)4)6)</sup>	Deputy Chairman of the Supervisory Board	2002	AGM 2016
Prof. Dr. Wolfgang Blättchen <sup>1)</sup>	Chairman of the Audit Committee, Independent Financial Expert <sup>5)</sup>	1998	AGM 2016
Prof. Dr. Petra Denk <sup>2)3)</sup>	Chair of the Technology Committee	2011	AGM 2016
Karl-Hermann Kuklies <sup>6)</sup>		1997	AGM 2016
Prof. Dr. Rüdiger von Rosen <sup>3)</sup>	Chairman of the Nomination Committee	2002	AGM 2016

<sup>1)</sup> Member of the Audit Committee

<sup>2)</sup> Member of the Technology Committee

<sup>3)</sup> Member of the Nomination Committee

<sup>4)</sup> Former AIXTRON Executive Board Member

<sup>5)</sup> Since 2005

<sup>6)</sup> Resigned as of January 30, 2013

## 1.3. PRINCIPLES OF MANAGEMENT COMPENSATION

The Supervisory Board is responsible for establishing the structure of the Executive Board remuneration system and for the total remuneration for the individual Executive Board members. The appropriateness of the remuneration components, and the likelihood that they do not encourage Management to take unreasonable risks, are regularly reviewed by the Supervisory Board.

The remuneration level of the Executive Board members of AIXTRON SE is aligned with the commercial and financial situation and future prospects of the Group and the level and structure of Executive Board remuneration at comparable companies as well as 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. Executive Board remuneration currently consists of three components: fixed remuneration (including benefits in kind and payments into an individual private pension insurance), a variable bonus, and it may include stock-based 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 salary. Payments in kind are made, chiefly consisting of company car usage and payments for individual private pension insurance plans.

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

In addition, as a variable component acting as a long-term incentive with an element of risk, the members of the Executive Board may receive a share-based payment in the form of options that are granted under AIXTRON's stock option plans. The number of options granted to the Executive Board is determined by the Supervisory Board.

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.

Remuneration of the Supervisory Board is regulated by AIXTRON's Articles of Association. Accordingly, the annual fixed compensation for individual members of the Supervisory Board is EUR 25,000. The Chairman's compensation is three times this amount and the Deputy Chairman's one and a half times the amount received by a regular member of the Supervisory Board. The members of the Supervisory Board also receive, in aggregate, a variable compensation of 1% of the Company's net income, less an amount corresponding to 4% of the paid-in contributions to the share capital. The Chairman of the Supervisory Board receives 6/17, the Deputy Chairman 3/17, and each other member of the Supervisory Board 2/17 of the variable remuneration. The variable compensation is limited to fourfold the annual fixed compensation of each Supervisory Board member. In addition, committee members receive an attendance fee of EUR 2,000 for attending a committee meeting, with the Chairman of the committee receiving triple this amount. The total annual attendance fee per Supervisory Board member is limited to one-and-a-half times of that individual's fixed remuneration.

The Supervisory Board members receive no loans from the Company.

The Company has a D&O insurance contract in place, covering the activities of members of the Executive Board and members of the Supervisory Board. Pursuant to the amended §93(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.

Further detailed information on the compensation of the individual Executive Board and Supervisory Board members as well as a detailed list of outstanding Executive Board stock options can be found in note 30 of the Consolidated Financial Statements.

#### 1.4. INFORMATION CONCERNING SECTION 315 (4) OF THE GERMAN COMMERCIAL CODE ("HGB") ON TAKEOVERS

The stated share capital of AIXTRON SE as of December 31, 2012 amounted to EUR 101,975,023



(December 31, 2011: EUR 101,789,527; December 31, 2010: EUR 101,179,866) divided into 101,975,023 registered shares with a proportional interest in the share capital of EUR 1.00 per no-par value registered share. Each no-par value share represents the proportionate share in AIXTRON's stated share capital and carries one vote at the Company's annual shareholders' meeting. All registered shares are fully paid in. The Company has issued a share certificate representing multiples of shares (global share); shareholders do not have the right to the issue of a share certificate representing their share(s). There are no voting or transfer restrictions on AIXTRON's registered shares that are related to the Company's Articles of Association. There are no classes of securities endowed with special control rights, nor are there any provisions for control of voting rights, if employees participate in the share capital without directly exercising their voting rights.

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

Funding Sources (EUR or number of shares)	2012 31-Dec	Approved since	Expiry Date	2011 31-Dec	2010 31-Dec	2012-2011
Issued shares	101,975,023	--	--	101,789,527	101,179,866	185,496
Authorized Capital 2012 – Capital increase for cash or contribution in kind with existing shareholders' preemptive rights	10,422,817	16/05/2012	15/05/2017	0	0	10,422,817
Authorized Capital 2011 – Capital increase for cash or contribution in kind with or without existing shareholders' preemptive rights	40,471,946	19/05/2011	18/05/2016	40,471,946	0	0
Conditional Capital I 2012 – Authorization to potentially issue convertible notes or warrants in future	40,715,810	16/05/2012	15/05/2017	0	0	40,715,810
Conditional Capital I 2007 – Authorization to potentially issue convertible notes or warrants in future	cancelled	22/05/2007	21/05/2012	35,875,598	35,875,598	-35,875,598
Conditional Capital II 2012 – Stock Options Program 2012	4,208,726	16/05/2012	15/05/2017	0	0	4,208,726
Conditional Capital II 2007 – Stock Options Program 2007	3,136,628	22/05/2007	31/12/2018	3,298,774	3,681,699	-162,146
Conditional Capital 4 – Stock Options Program 2002	722,097	22/05/2002	31/12/2016	745,447	972,183	-23,350
Conditional Capital 2 – Stock Options Program 1999	1,926,005	26/05/1999	31/12/2017	1,926,005	1,926,005	0

In accordance with section 71 (1) No. 8 German Corporations Act, (AktG), the Company is authorized until May 17, 2015, with the approval of the Supervisory Board, to purchase its own shares representing an amount of up to EUR 10,088,195 of the share capital. This authorization may not be used by the Company for the purpose of trading in own shares. The authorization may be exercised in full, or in part, once, or on several occasions by the Company. The shares may be purchased (1) on the stock market or (2) by way of a public offer to all shareholders made by the Company.

Any amendment to the Articles of Association related to capital measures requires a 75% majority of the share capital represented at the general shareholders' meeting (Article 59 SE Regulation, SE-V0; §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, 2012, about 22% of AIXTRON shares were held by private individuals, with around 78% held by institutional investors. The largest AIXTRON non-institutional shareholder was Camma B.V., Renesse (Netherlands) with 7.5% holdings in AIXTRON stock. Circa 92.5% of the shares were considered as free float according to Deutsche Börse's definition.

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

If a change of control situation exists, the individual members of the Executive Board are entitled to terminate their service relationship with AIXTRON with a notice period of three months to the end of the month and to resign from their post on the termination date. Upon termination of the services as a result of a change of control, such member of the Executive Board will receive a severance pay in an

amount equal to the fixed and variable compensation expected to be owed by the Company for the remaining term of the service contract, however, not exceeding an amount equal to twice the annual compensation. A change of control situation exists if a third party or a group of third parties who contractually combine their shares in order to act subsequently as a third party, directly or indirectly hold more than 50% of the Company's authorized capital. Apart from the above mentioned, there are no further changes of control provisions.

## 1.5. LOCATIONS

The Company has its registered office in Herzogenrath, Germany, and had a total of 17 facilities worldwide owned or rented as of December 31, 2012:

Facility location	Use	Approx. size (m <sup>2</sup> )	Lease expiry
Herzogenrath, Germany (owned)	Headquarters, Manufacturing, Service, Engineering	12,457	--
Herzogenrath, Germany (owned)	Research & Development, Manufacturing, Engineering	16,000	--
Herzogenrath, Germany (leased)	Administration, Sales	2,419	12/31/2013
Aachen, Germany (leased)	Research & Development	200	1/29/2014
Cambridge, UK (leased)	Manufacturing, Engineering, Research & Development	2,180	9/13/2019
Cambridge, UK (leased)	Sales, Service, Engineering	1,386	6/27/2020
Lund, Sweden (leased)	Engineering, Service	449	12/31/2014
Sunnyvale, CA, USA (leased)	Manufacturing, Sales, Service, Engineering, Research & Development	9,338	10/31/2017
Seoul, South Korea (leased)	Sales, Service	1,032	12/31/2015
Shanghai, China (leased)	Sales, Service	755	7/31/2014
Suzhou, China (leased)	Sales, Service	537	12/31/2013
Yangzhou, China (leased)	Sales, Service	90	10/14/2013
Hsinchu, Taiwan (leased)	Sales, Service	1,893	12/31/2014
Tainan, Taiwan (leased)	Service	203	5/26/2013
Tokyo, Japan (leased)	Sales, Service	534	9/30/2014

The new Research & Development ("R&D") center in Herzogenrath with an approximate size of 16,000 square meters and room for approximately 450 staff was fully completed on budget and on time by Q3/2010 (Phase I) and by Q1/2012 (Phase II).

## 1.6. BUSINESS MODEL

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

AIXTRON's business activities include developing, producing and installing equipment for the deposition of semiconductor materials, process engineering, consulting and training, including ongoing customer support.

Demand for AIXTRON's products is driven by the sustained miniaturization, increased processing speed, improved efficiency, and reduced cost of ownership demands for current and emerging microelectronic and optoelectronic components. The ability of AIXTRON's products to precisely **DEPOSIT** thin material films and the ability to control critical surface dimensions in these components, enables manufacturers to improve performance, yield and quality in the fabrication process of advanced microelectronic and

optoelectronic devices.

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

Environmental protection and the responsible use of resources are an essential part of AIXTRON's business strategy. The Company's engineers work diligently to continuously improve AIXTRON's systems, both in terms of resource conservation and environmentally-friendly design and function.

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

## 1.7. EMPLOYEES

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

As a global Company with an international corporate culture, AIXTRON manages diversity with the aim of creating a productive work atmosphere, to prevent social discrimination, and to cultivate equal opportunities.

In 2012, the total number of employees decreased slightly by 1%, from 978 employees at the end of 2011 (2010: 784) to 964 at December 31, 2012. While the Manufacturing & Service and Administration departments required less personnel due to the low business volume, the number of R&D employees increased, driven by the Company's strong commitment to R&D.

Employees by Function	2012		2011		2010		2012-2011	
	Dec-31 %		Dec-31 %		Dec-31 %		abs. %	
Sales	88	9	85	9	62	8	3	4
Research & Development	333	35	318	32	248	32	15	5
Manufacturing & Service	427	44	450	46	375	48	-23	-5
Administration	116	12	125	13	99	12	-9	-7
Total	964	100	978	100	784	100	-14	-1

As of December 31, 2012, the majority of AIXTRON's worldwide permanent employees was – as in previous years – based in Europe. The decrease of the US headcount by 15% or 21 employees in 2012 was mainly due to cost reduction measures having been applied.

Employees by Region	2012		2011		2010		2012-2011	
	Dec-31 %		Dec-31 %		Dec-31 %		abs. %	
Asia	188	20	181	19	154	20	7	4
Europe	660	68	660	67	524	67	0	0
USA	116	12	137	14	106	13	-21	-15
Total	964	100	978	100	784	100	-14	-1

## 1.8. TECHNOLOGY AND PRODUCTS

AIXTRON's product range includes customized full production scale and research systems capable of depositing material films on a diverse range of different **SUBSTRATE** sizes and materials.

The **DEPOSITION** process technologies include Metal-Organic Chemical Vapor Deposition ("**MOCVD**") for the deposition of compound materials as well as thin film deposition of organic materials on up to Gen. 3.5 **SUBSTRATES**. These include Polymer Vapor Phase Deposition (PVPD<sup>®</sup>), Organic Vapor Phase Deposition ("**OVPD**<sup>®</sup>") or large area deposition for Organic Light Emitting Diodes ("**OLED**") applications. Plasma Enhanced Chemical Vapor Phase Deposition ("**PECVD**") is being employed for the deposition of complex Carbon Nanostructures (**CARBON NANOTUBES**, Nanowires or Graphene).

For **SILICON SEMICONDUCTOR** applications, AIXTRON systems are capable of depositing material films on **WAFERS** of up to 300mm in diameter, by employing technologies such as: Chemical Vapor Deposition ("**CVD**"), Atomic Vapor Deposition ("**AVD**<sup>®</sup>") and Atomic Layer Deposition ("**ALD**").

The following table summarizes the products and technologies AIXTRON offers to its customers for use in specific applications and **DEVICES**:

Material	<b>COMPOUND SEMICONDUCTORS</b>	<b>Organic Semiconductors</b>	<b>Silicon Semiconductors</b>
<b>Systems Technology</b>	MOCVD	OVPD <sup>®</sup>	CVD
-	CVD	PVPD <sup>®</sup>	ALD
-	PECVD	-	AVD <sup>®</sup>
<b>Products</b>	<b>PLANETARY REACTOR</b> <sup>®</sup>	GenI R&D Platform	Lynx CVD
-	<b>CLOSE COUPLED SHOWERHEAD</b> <sup>®</sup>	Cluster Environment for R&D Platform	Tricent <sup>®</sup> ALD
-	Nano CVD Reactors BM Series	Production Tools for cluster and inline integration on different substrate sizes (e.g. Gen2, Gen3.5, and larger)	Tricent <sup>®</sup> AVD <sup>®</sup>
-	Hot Wall Reactors: VP series	-	QXP-8300
<b>Potential Applications/Devices</b>	<b>LEDS</b>	<b>OLEDs for DISPLAYS</b>	Metal and Oxide films for <b>CMOS</b> gate stacks
-	Optoelectronics (photo diodes, lasers, modulators for telecom/datacom)	OLEDs for solid state lighting	Metal and Oxide films for <b>CAPACITOR</b> structures in <b>DRAMS</b> and FeRAMS
-	Laser devices for consumer electronics (CDs, DVDs)	Organic transparent thin film solar cells	-
-	High-Frequency devices (such as Hetero Bipolar <b>TRANSISTORS</b> and High Electron Mobility Transistors) for wireless datacom	Electronic semiconductor structures, e.g. for flexible displays	-
-	Silicon Carbide (SiC) based High Power Devices	Functional polymer layers	-
-	Gallium Nitride (GaN) based power electronics	Dielectric or passivating polymer films	-
-	Carbon Nanostructures for electronic, <b>DISPLAY</b> & heat sink applications	-	-
-	Graphene structures for electronic applications	-	-
(as of December 31, 2012)			

AIXTRON also offers a comprehensive range of peripheral equipment and services. Additionally, the Company offers its customers training, consulting and support services.

### 1.9. RESEARCH AND DEVELOPMENT

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

Even in the past year's difficult economic environment AIXTRON maintained a strong, well-funded and

focused R&D program within its business. Management retains a strong focus on optimizing its internal R&D projects and processes to ensure a most efficient and market-oriented use of the Company's R&D budget. The Company's strong R&D culture is recognized as the cornerstone of its past market success and is considered as a key enabling asset to achieve the Company's ambitions in future markets for which AIXTRON is currently developing products. This focused Management policy was in average pursued by a team of 337 dedicated and highly skilled R&D employees in 2012 (2011: 279; 2010: 240).

For more information regarding R&D expenses from fiscal year 2010 through 2012, refer to "Development of Results" in this report.

Underlining the commitment to remain a recognized technology and market leading Company, R&D activities in 2012 included continual improvement programs for AIXTRON's existing products and markets, i.e. the delivery of more process capabilities, factory integration, increased automation and the development of new system architectures, all of which are targeted at enabling customers, who are faced with increasing margin pressure, to achieve improvements in throughput efficiencies and total cost of ownership.

Moreover, the Company continued to pursue new potential opportunities to leverage its core know-how of material **DEPOSITION** into new market and technology areas beyond **LEDS**, as evidenced by AIXTRON's many internally and externally funded research projects. Specific fields of interest here are:

Organic material deposition solutions for large area optoelectronic applications, including: plastic electronics, **OLEDs** for lighting, **DISPLAY**, solar cell **DEVICES** and other applications SiC for power electronics for smart grid, hybrid automotive and other applications III-V materials (incl. GaN) on **SILICON** for next generation LEDs, power electronics or high-speed processors for the smart grid, wireless communication, lighting and advanced IT applications Carbon Nanostructures (incl. Graphene and CNTs) for next generation **TRANSISTORS**, optoelectronics and other applications

A specific example in the **OLED** area is the new German research project "PROLUX" which was approved and initiated in Q2/2012. This publicly funded program aims at significantly increasing OLED efficiencies through improved deposition processes. The project is being jointly conducted by a number of eminent research partners – including AIXTRON, Philips, the RWTH University in Aachen and the Fraunhofer Institute for Laser Technology ILT – and is being funded by the state of North Rhine-Westphalia, Germany. AIXTRON's specific role within the PROLUX project is to develop and integrate new system technologies with the Company's existing **OVPD**<sup>®</sup>, organic large area and **PVPD**<sup>®</sup> equipment portfolio and to support the corresponding development activities of the other partners.

In Q3/2012, AIXTRON started a new OLED project called "KOBALT", focused on the development of cost-efficient large-area OLEDs for use in the lighting market. The project is partially funded by the German Ministry of Education and Research ("BMBF"). Together with Philips and BASF as industry partners, AIXTRON is examining and qualifying new OLED **SUBSTRATES** and materials that can contribute to the development of high-efficiency white OLEDs. This project will also address interest in the utilization of cost-efficient standard glass substrates and will engage in the development of flexible film substrates. The overall objective of the project is to improve the viability of a successful market introduction of OLED lighting applications with improved **DEVICE** performance and longer lifetime.

The announcement on July 5, 2012 of the successful conclusion of the European Commission-funded "TECHNOTUBES" project is a good example of the progress made in the emerging **CARBON NANOTUBES** field. The members of the project consortium were the University of Cambridge (coordinator), ETH Zurich, TU Denmark, TU Berlin, Fritz Haber Institute, CNR-Italy, Philips, THALES, Cambridge **CMOS** Sensors, IMEC, and AIXTRON. The three-year project concluded with a demonstration of AIXTRON's recently developed BM 300T automated production scale system. This new system is capable of depositing various carbon nanotube structures that met the requirements of a wide variety of applications and integrate various processes into a single automated platform offering the performance that industrial production partners demand. This system has already attracted considerable interest from several notable industrial parties.

Such projects support AIXTRON Management's opinion that a strong and market-driven R&D culture is essential to enable the improvement of the cost of ownership and efficiency metrics for AIXTRON's customers and to maintain AIXTRON's position as a technology leader.

AIXTRON aims to secure its technology by patenting and protecting inventions and know-how, provided it is strategically expedient and possible for the Company to do so. As of December 31, 2012, 157 patent-protected inventions were in use, of which 14 were registered in the reporting period. Patent protection for these inventions applies in those sales markets relevant for AIXTRON, specifically in Europe, China, Japan, South Korea, Taiwan and the United States. These patents are maintained and renewed annually and will expire between 2013 and 2032.

#### 1.11. MANUFACTURING AND PROCUREMENT

The AIXTRON manufacturing operation is principally involved in the final assembly stage of production, including equipment configuration, tuning and testing. The Company purchases all of the components and most of the assemblies required to manufacture the equipment from third-party contractors and suppliers. 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 AIXTRON equipment component/assembly. AIXTRON's own staff manages the whole manufacturing process and in conjunction with in-house contractors executes the final manufacturing steps as described above.

Since 1994, AIXTRON has been assessed annually and awarded unlimited **ISO 9001** certification. In 2003, the process-oriented management system was successfully certified in accordance with worldwide quality standard DIN EN ISO 9001:2000. In October 2009, this certification was upgraded to DIN EN ISO 9001:2008.

The Company routinely complies with all applicable international standards and procedures for the equipment industry. The "CE" label qualification confirms the conformity of AIXTRON products with the applicable European directives and standards. Moreover, the "UL" standard for product admission to the US market and the recommended requirements of the SEMI organization are also complied with. When developing new equipment, the "Restriction of Hazardous Substances Directive, RoHS" is strictly adhered to, as are the internal **COMPLIANCE** requirements to meet these specific rules and standards. Several independent certification companies, such as "TÜV" and "ETL", have also confirmed AIXTRON's compliance with their requirements and specifications through the issuance of the respective examination certifications.

#### 1.12. SALES AND SERVICE

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

AIXTRON's own Sales and Service Organization provides a full range of customer services, from the initial support of the customized development of an AIXTRON system, through to the final installation and ongoing customer training as well as operational support of its systems.

#### 1.13. CUSTOMERS AND GEOGRAPHIC REGIONS

AIXTRON's **SEMICONDUCTOR DEVICE** customers are principally, but not exclusively, focused on the manufacturing of **LEDS**, wireless device, power electronics, optoelectronics, logic and data storage components. Some of these customers are vertically integrated device manufacturers who serve the entire value chain down to the end consumer. Others are independent component suppliers who deliver **CHIPS** and components produced on AIXTRON equipment to the next link in the value chain, namely, the electronic device manufacturers. The Company's customers also include research centers and universities. Most of the world's leading electronic device manufacturers produce in Asia and consequently, the majority of AIXTRON sales continue to be delivered into this region.

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

#### 1.14. COMPETITIVE POSITIONING

Historically, AIXTRON's main competitor in **MOCVD** applications has been Veeco Instruments Inc. (USA) with part of its "**LED & Solar**" business segment. AIXTRON also competes with a number of Asian manufacturers including Taiyo Nippon Sanso (Japan), amongst others. As a consequence of the rising LED end-market expectations and positive prospects for MOCVD equipment demand, there is evidence that equipment companies from adjacent industries continue to attempt to qualify their own MOCVD tools with customers. For example, both Applied Materials Inc. (USA) and Jusung Engineering Co. Ltd. (South Korea) are known to have been active in the development process for an in-house equipment solution for the production of **LEDS**. Some local Chinese companies have also commenced MOCVD equipment design and manufacturing plans supported by government initiatives.

Based on the latest published market share research by Gartner Dataquest (March 2012), it was estimated that the share of the worldwide MOCVD equipment market (estimated 2011 total market value: USD 1.5bn) held by AIXTRON in 2011 was around 50%. In the same report, the Company's main competitor in terms of sales, Veeco Instruments Inc., had an estimated market share of approximately 47%. Viewed in the mid- to long-term, AIXTRON continues to target a market leading position in the global MOCVD market with AIXTRON and Veeco remaining the main players in this market.

For emerging Organic **SEMICONDUCTOR** applications, AIXTRON competes with established manufacturers such as Ulvac, Inc. (Japan), Tokki Corporation (Japan), Sumitomo (Japan), Applied Materials, Inc. (USA), Doosan DND Co. Ltd. (South Korea), Sunic System (South Korea) and a number of other smaller companies. While these competitors use established vacuum thermal evaporation ("VTE") technology or polymer technology to produce organic light emitting diodes (**OLEDS**), AIXTRON offers its own highly innovative organic vapor phase **DEPOSITION (OVPD®)** and **PVPD®** (polymer vapor phase deposition) large area deposition technologies to **OLED** manufacturers. In AIXTRON's opinion, due to a perceived superior process technology and the potential for reducing manufacturing costs, these technologies have the potential to compete successfully with VTE and polymer technologies. AIXTRON is well positioned as a potential deposition system supplier for next generation **OLEDs** and large area deposition applications that are anticipated to be used in innovative, self-luminous **DISPLAYS** as well as future potential lighting, solar cell, and other electronic **OLED** applications.

As AIXTRON's system technology and customer applications are still in the market entry phase, Organic Semiconductor market share information is neither available nor meaningful at this point in time.

For **CVD**, **AVD®** and **ALD** applications, AIXTRON competes with a variety of other equipment companies, including Applied Materials, Inc. (USA), Tokyo Electron Ltd. (Japan), ASM International N.V. (Netherlands), IPS Technology (South Korea), Jusung Engineering Co. Ltd. (South Korea), and Hitachi Kokusai Electric Co. Inc. (Japan). With the Company's currently available **SILICON** semiconductor manufacturing technologies, AIXTRON is potentially well positioned to offer advanced films for 28nm node and below for memory and logic integrated circuits (ICs). These technologies enable extremely high precision in depositing very thin material layers and facilitate the consistent coating of complex three-dimensional microelectronic **DEVICE** structures. Moreover, they offer the semiconductor industry new material deposition possibilities for the next generation of semiconductor **DEVICES**, and, in AIXTRON's opinion, present high development potential for the future.

The specific market niche to be addressed by AIXTRON's system technologies for the production of specialized applications such as gate stacks and capacitors was estimated by Gartner Dataquest in

October 2012 to be valued at USD 359m for 2012. For memory device production systems of the 28nm node and below, AIXTRON still experienced relatively low order intake and revenue levels during 2012. AIXTRON's market share in this area is therefore not considered meaningful at this point in time.

#### 1.15. KEY PERFORMANCE INDICATORS

The Executive Board has implemented numerous control systems and procedures to manage, monitor, analyze, and document Company risks and opportunities, including a Key Performance Indicator system addressing relevant business areas, with a primary focus on the "Market", "Finance" and "Technology Development" control areas.

In the "Market" control area, using third-party reports and direct customer dialog, AIXTRON pursues a market-led product development strategy through the careful examination of market trends and customer requirements. The objective of this strategy is to ensure the timely market availability of new and appropriately competitive product generations in line with customer requirements.

In the "Finance" control area, the Executive Board uses a range of internal and external key performance indicators, with particular focus on: total sales, contribution margins, net result data and cash flow. The objective of these controls is to ensure that profitable revenue growth is matched by appropriate and prudent cash flow development.

In the "Technology Development" control area, the Executive Board uses a range of internal and external key performance indicators to evaluate the progress and success of internal projects. The Management regularly reviews project progress against target timelines and objectives, including: total sales revenue and net result data comparisons to the original targets. The objective of this review process is to ensure that ongoing projects retain the necessary level of technological and commercial competitiveness throughout the life of the product.

#### 1.16. GOVERNMENT REGULATION

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

Research and development activities as well as the manufacturing and demonstration of the Company's products involve the use of potentially harmful chemical and hazardous materials and radioactive compounds and as a result, AIXTRON is subject to stringent environmental and safety regulations in connection with its business operations.

Because AIXTRON's securities are publicly traded in the US, the Company is also subject to the rules and regulations promulgated by the SEC, including those defined under the **SARBANES-OXLEY ACT** of 2002. In addition, AIXTRON is 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.

## 2 IMPORTANT FACTORS

### 2.1. GLOBAL ECONOMY

Instability and uncertainty in the global economic environment have had a negative impact on AIXTRON's business development in 2012.



The global economic environment was significantly influenced by ongoing sovereign debt issues in both Europe and the US. This effected global growth and led to a decline in global trade and employment levels. According to the International Monetary Fund (IMF), the growth rate for global real gross domestic product (GDP<sup>[1]</sup>) fell from 3.9% in 2011 to 3.2% in 2012.

In the advanced economies<sup>[2]</sup>, economic growth in 2012 was largely suppressed due to ongoing fiscal consolidation and a still weak financial system. In the Eurozone, GDP declined by 0.4% from 1.5% growth in 2011. In contrast, the Japanese economy recovered strongly from -0.7% in 2011 and grew again by 1.9%. The US grew at a level of 2.2% from 1.8% in 2011.

In 2012, emerging markets<sup>[3]</sup> led global economic growth. However, "spillover" effects from the more developed economies meant that their growth was weaker than in 2011. On average, GDP in these countries grew 5.1% (5.9% in 2011). This reduction in growth was largely attributable to the slowing growth in Asian economies such as China and India. However, despite an increase in Q4, China reported their lowest annual growth performance in 13 years, growing 7.9% (9.3% in 2011). India also reported their lowest growth figure in ten years, growing only 5.1% (6.9% in 2011).

The stock markets remained volatile throughout 2012. This was primarily due to inconclusive news flow on the European and the US sovereign debt situation. However, overall, the stock market performance in 2012 was positive year on year. This year end development was supported by the perceived stabilization of the European sovereign debt crisis in the second half of the year. As a result, the German DAX<sup>®</sup> closed 2012 at 7,612 points, up 29% for the year. At the same time, the TecDAX<sup>®</sup> index, which includes AIXTRON, was up 21% to 828 points. This reflects Germany's almost unique economic position within the Eurozone and the European Union. In comparison, the STOXX50 index, which includes fewer German companies, increased 9% over the year. Major international indices outside the Euro area also showed a somewhat mixed picture. While the FTSE 100 and the Dow Jones Industrial Average Indices were up by 6% and 7% respectively, the S&P 500 increased by 13% and the NIKKEI finished 22% higher.

The exchange rate movement between the Euro and the US-Dollar was also tied to the development of the sovereign debt crisis. At the beginning of the year, there was a short-term rebound of the Euro due to the agreement on another rescue package for Greece. At the end of July the Spanish banking crisis accelerated the exchange rate decline to a year-low of 1.210 USD/EUR. Supported by the perceived improvement of the European situation and on the back of public debt discussions in the US, the US-Dollar steadily weakened to close at 1.319 USD/EUR by the end of the year. This represents a 2% depreciation of the US-Dollar over the previous year's closing price of 1.295 USD/EUR. The average exchange rate for the year was 1.286 USD/EUR (2011: 1.392 USD/EUR), which represents an 8% appreciation of the US-Dollar over the prior year average.

AIXTRON Management continues to carefully monitor the developments in the global economy and financial markets, and regularly examines what can be potentially done to mitigate possible negative consequential effects on AIXTRON's business.

[1] IMF World Economic Outlook update as of January 23, 2013

[2] Including the US, the Eurozone, Japan, the UK, Canada and others

[3] Including Central and Eastern Europe, Russia, China, India and others

## 2.2. THE SEMICONDUCTOR EQUIPMENT MARKET

In 2012, the electronics equipment industry in total grew by 3.2% (according to Gartner Dataquest, December 2012) which was in line with recorded world real GDP growth<sup>[1]</sup> (according to the IMF World Economic Outlook update published on January 23, 2013).

In comparison, the subset; **SEMICONDUCTOR** capital spending, showed a decline of about 3% in 2012. A further subset, specific spending on **WAFER** Fab equipment (WFE), which includes spending on **DEPOSITION** tools supplied by AIXTRON, declined by 17.4% year on year (according to Gartner Dataquest, December 2012). The worldwide **MOCVD** equipment market as subset of the WFE market declined by 60% to circa USD 600m in 2012, from an estimated total market value of USD 1.5bn in 2011 (Gartner Dataquest, March 2012 and October 2012).

Despite a substantial decline, the sale of MOCVD systems for the manufacturing of High Brightness ("HB") **LEDS**, which represented 48% (2011: 83%; 2010: 93%), of its total equipment revenues, continued to be the largest revenue driver for AIXTRON in 2012.

## 2.3. THE HB LED MARKET

The market for HB LED DEVICE units, which can be produced with AIXTRON's COMPOUND SEMICONDUCTOR equipment, was expected to grow by 34% according to a report from Strategies Unlimited (an independent semiconductor market research institute), published in August 2012. However, according to industry sources, LED prices have dropped by 20-30% throughout the year and are expected to decline at the same rate in 2013. Concurrently, the HB LED market was predicted to grow in 2012 by only 1.5% to USD 12.7bn from 12.5bn in 2011 (Strategies Unlimited, August 2012).

The continuous reduction of LED prices, governmental policy changes and efforts from the supply chain, have all contributed positively to increase the momentum for LED lighting adoption across commercial, industrial and consumer segments.

In September of last year, the final stage of the phase-out of all GENERAL LIGHTING incandescent lamps was implemented across the European Union. This means that standard incandescent bulbs can no longer be produced or sold within the EU. In China, where incandescent light bulbs are being phased out in a similar fashion, a three-stage phase-out commenced on October 1, 2012, with the prohibition of 100W and higher rated incandescent bulbs. This will be followed by the removal of 60W and above by October 1, 2014, and then 15W and above by October 1, 2016. The implementation of these programs is increasing the average consumer awareness of the value and acceptance of energy-efficient lighting products, including LED lighting.

The Chinese government has also progressed from just subsidizing LED manufacturing equipment to proactively supporting the purchase of LED products by consumers. In August 2012, Chinese authorities selected a number of companies to receive a first tranche of funding to support the discounting of LED products to consumers in China. Although the exact scope and scale of the plan has not yet been released, it clearly indicates the Chinese government's commitment to support the LED industry.

Other governments are also starting to promote the adoption of energy and cost effective LED lighting solutions. All such initiatives have the potential to further stimulate demand.

Manufacturers of LED lighting products are progressively offering better quality LED products at lower prices. OSRAM, a leading European lighting manufacturer, announced in September 2012 that they would be offering LED-based replacements for 40W incandescent lamps in Europe at a retail price below EUR 10 (USD 13), representing a 50% reduction on the previous year.

Another possible indicator for an acceptable price level that could initiate greater adoption of LED lighting by consumers was the success of a promotion by the world's largest supermarket discounter; Aldi, who offered 806 lumen or 60W equivalent LED light bulbs at a price of EUR 9.99 (USD 13) in Q3/12 and were sold out within the first few hours.

These developments support the perception that during 2012, the LED lighting industry became much closer to a potential tipping point of accelerated LED lighting adoption.

## 2.4. AIXTRON SPECIFIC FACTORS

### Reluctant investment behavior sustained throughout 2012

- Throughout fiscal year 2012, AIXTRON customers have remained hesitant in adding significant LED manufacturing capacity, despite increasingly high utilization rates at some mainline Asian manufacturers. Consequently, order intake for the full year 2012 decreased by 74% to EUR 131.4 million although H2/2012 orders were approximately 14% higher than H1/2012. AIXTRON recorded revenues of EUR 227.8m for the full year 2012, which although reflects the Q3 forecast for the year, still represents a decrease of EUR 383.2m, or 63%, compared to EUR 611.0m in 2011. H2/2012 Revenues were however approximately 58% higher than H1/2012.

- Due to the persistently subdued level of demand in the market, AIXTRON Management decided to substantially write down inventories in Q3. This non-cash effect significantly influenced the Company's full year result, leading to a gross profit of 0.4m and an EBIT of EUR -132.3m in 2012.
- On a quarterly view; Q4 marked a further sequential increase of revenues by 25% to EUR 77.5m from EUR 62.2m in Q3. After a negative gross profit in Q3 (EUR -42.3m) which was mainly due to the previously mentioned inventory write-down, Q4 gross profit was positive at EUR 17.7m (23% gross margin). The order intake in Q4 increased slightly from EUR 34.5m in Q3 to EUR 35.5m in Q4, reflecting the ongoing subdued market demand.
- Within the LED industry, some early signs of potential consolidation have been observed as evidenced by the August 2012 announcement of the Taiwanese LED manufacturer Epistar acquiring an additional and remaining stake in the LED **CHIP** company Huga Optotech in Taiwan, thereby acquiring their LED manufacturing capacity. Similarly, in November 2012, the Chinese LED manufacturer Sanan Optoelectronics bought a 20% stake in the Taiwanese LED manufacturer Formosa **EPITAXY**.

### Market introduction of new products

- During 2012, AIXTRON mainly concentrated on refining and optimizing its product technologies in response to current and future customer needs. This will enable AIXTRON to rely on an improved and highly competitive product portfolio when the expected upturn in demand arrives.
- On July 24, 2012, the Company announced the latest member of its AIX G5 **PLANETARY REACTOR**<sup>®</sup> platform family, the AIX G5+; a 5x8 inch (200mm) **WAFER** GaN-on-Si (Gallium Nitride-on-**SILICON**) product. This new platform variant, with specially designed reactor hardware and process capabilities, has been designed to meet the needs of both AIXTRON's Power Electronics market customers and the rising demand from customers looking for a production process solution for GaN-on-Si LED **CHIPS** on 8 inch (200mm) standard Silicon **SUBSTRATES**.
- Within the Organic **SEMICONDUCTOR** material space, the Company launched its new PRODOS-200 Polymer Vapor Phase **DEPOSITION** (PVPD<sup>®</sup>) R&D platform in Q3. In the same quarter, the Company announced the delivery of a PRODOS Gen3.5 PVPD<sup>®</sup> production system to a major Asian customer. While the R&D platform enables new processes to be developed on a conveniently-sized 200x200mm **SUBSTRATE**, the PRODOS Gen3.5 production tool implements a specific polymer deposition approach on an industrial scale (650x750mm). This production scale equipment is designed to be used for manufacturing novel flexible electronic **DEVICES** through the deposition of organic polymer thin films. Although flexible electronics technology is still at a very early stage of development, the prospects for this novel technology are very promising and will allow AIXTRON customers to develop new applications.

### Non-LED activities gaining traction

- In Q3, AIXTRON announced a multi-tool order by a leading Korean **DRAM** manufacturer for AIXTRON's new QXP-8300 **ALD** deposition tool. The film developed on this QXP-8300 production system has been successfully pre-qualified by this manufacturer for a sub-30nm DRAM technology node and was subsequently successfully production qualified in Q4. The QXP-8300 ALD tools offer a compelling and cost-effective technology solution and consequently the Company is well positioned to support the anticipated ramp up in advanced DRAM chip manufacturing in the coming years. Interest in AIXTRON's silicon systems has greatly increased since the release of the QXP-8300 and Management foresees further significant growth opportunities for high throughput ALD technology with this product.
- In 2012, AIXTRON experienced increasing demand for R&D and production tools for the Power Electronics market. These specific tools are used by customers to produce highly efficient Gallium Nitride (GaN) and Silicon Carbide (SiC) based power devices. These are material solutions that are increasingly being applied to energy efficient power management and conversion applications, addressing market trends in smart grid, hybrid and electrical automotive, as well as energy

efficient telecom devices. The Company has a long track record in this area and has the expertise and tools to address the very large end-market opportunities. According to IMS Research, the Power Electronics **DEVICE** market is expected to grow to USD 70bn p.a. in value by 2021 with a total accessible equipment market of circa USD 1bn over the next ten years.

- AIXTRON has also recorded several new orders for its dedicated carbon nano-technology equipment where the Company's BM systems are designed to deliver turn-key solutions for carbon nanotube and graphene R&D and production applications. AIXTRON expects that the increasing investments being made in these material applications will have a potentially significant impact on future generations of electronic devices.

## 3 RESULTS OF OPERATIONS

### 3.1. DEVELOPMENT OF REVENUES

In fiscal year 2012, AIXTRON recorded revenues of EUR 227.8m, a decrease of EUR 383.2m, or 63%, compared to EUR 611.0m in 2011 (2010: EUR 783.8m). The most important factor in this development was the generally reluctant investment behavior of AIXTRON's customers in the light of uncertain end-markets. This reluctance was particularly evident in the **LED TV** and **LED lighting equipment** markets where we experienced significantly lower demand for **MOCVD DEPOSITION** equipment than anticipated. In the prior year 2011, the revenue development had been mainly affected by the abrupt deterioration in the business environment, specifically during the second half of the year, where revenues were down 40% compared to the first half year. This second half demand effect in 2011 has continued throughout all four quarters of 2012.

The decrease in full year 2012 revenues was mainly attributable to the 68% reduction in the Company's deposition equipment revenues (2012: EUR 176.9m; 2011: EUR 556.3m; 2010: EUR 735.7m). The Company's products bought by AIXTRON's customers are predominantly used for the production of **LEDS**, which in turn are primarily employed as **BACKLIGHTING DEVICES** for **LCD DISPLAYS** and emerging lighting applications. Total equipment sales generated 78% of total revenues in 2012 (91% in 2011; 94% in 2010).

The remaining 22% of total revenues in 2012 were generated by sales of spare parts and service, which is 13 percentage points higher than in 2011 (9% in 2011; 6% in 2010) and mainly due to an overall lower equipment revenue baseline. In absolute terms, sales of spare parts & service were 7% lower in 2012 compared to 2011 (2012: EUR 51.0m; 2011: EUR 54.7m; 2010: EUR 48.1m).

Revenues by Technology	2012		2011		2010		2012-2011	
	m	EUR %	m	EUR %	m	EUR %	m	EUR %
Equipment revenues	176.9	78	556.3	91	735.7	94	-379.4	-68
Other revenues (service, spare parts, etc.)	51.0	22	54.7	9	48.1	6	-3.7	-7
<b>Total</b>	<b>227.8</b>	<b>100</b>	<b>611.0</b>	<b>100</b>	<b>783.8</b>	<b>100</b>	<b>-383.2</b>	<b>-63</b>

A very high percentage, namely 78% of total revenues in 2012, continues to be generated by sales to customers in Asia. However, due to the reluctant investment behavior of AIXTRON's main Asian customer base during 2012 and the increased relative percentage of sales to customers in Europe and the US, this means that this is 12 percentage points lower than the 90% recorded in 2011 (91% in 2010).

9% of revenues in 2012 were generated in Europe (4% in 2011; 4% in 2010) and the remaining 13% in the USA (6% in 2011; 5% in 2010).

Revenues by Region	2012		2011		2010		2012-2011	
	m	EUR %	m	EUR %	m	EUR %	m	EUR %
Asia	177.5	78	547.8	90	716.9	91	-370.3	-68
Europe	21.4	9	26.3	4	31.1	4	-4.9	-19
USA	29.0	13	36.9	6	35.8	5	-7.9	-21

<b>Total</b>	<b>227.8</b>	<b>100</b>	<b>611.0</b>	<b>100</b>	<b>783.8</b>	<b>100</b>	<b>-383.2</b>	<b>-63</b>
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### 3.2. DEVELOPMENT OF RESULTS

Cost Structure in EUR million	2012 Full Year % Rev.		2011 Full Year % Rev.		2010 Full Year % Rev.		2012-2011 %	
	<b>Cost of sales</b>	<b>227.4</b>	<b>100</b>	<b>379.6</b>	<b>62</b>	<b>372.0</b>	<b>47</b>	<b>-152.2</b>
<b>Gross profit</b>	<b>0.4</b>	<b>0</b>	<b>231.4</b>	<b>38</b>	<b>411.8</b>	<b>53</b>	<b>-231.0</b>	<b>-100</b>
<b>Operating costs</b>	<b>132.7</b>	<b>58</b>	<b>118.5</b>	<b>19</b>	<b>136.2</b>	<b>17</b>	<b>14.3</b>	<b>12</b>
Selling expenses	34.8	15	32.1	5	48.9	6	2.7	8
General and administration expenses	19.6	9	34.0	6	30.1	4	-14.4	-42
Research and development costs	72.9	32	50.4	8	46.1	6	22.5	45
Net other operating (income) and expenses	5.5	2	2.0	0	11.1	1	3.5	175

#### Cost of Sales

Cost of sales decreased year on year by 40% in absolute terms from EUR 379.6m in 2011 to EUR 227.4m in 2012 (2010: EUR 372.0m). This cost base was only slightly below the revenues booked in 2012, principally due to the significant Q3 inventory write-downs, against the backdrop of the slower than expected recovery of orders and business volume within the second half of 2012, which in turn led to a continued under-recovery of production overhead costs.

#### Gross Profit, Gross Margin

Due to the high relative cost of sales base in 2012, the Company's gross profit decreased to EUR 0.4m in 2012 (2011: 231.4m; 2010: EUR 411.8m), resulting in a 0% gross margin after 38% in 2011 (53% in 2010).

#### Operating Costs

Operating costs increased year on year by 12% to EUR 132.7m in 2012 (2011: EUR 118.5m; 2010: EUR 136.2m), mainly due to a significant increase in R&D spending. Operating costs relative to revenues were 58% in 2012, 39 percentage points higher than the 19% in 2011 (17% in 2010). This development was influenced by the following factors:

**Selling expenses** were up slightly year on year in absolute terms to EUR 34.8m (2011: EUR 32.1m; 2010: EUR 48.9m), which, in spite of the lower sales volume, is mainly due to increased provisions for after sales services. Selling expenses relative to revenues were also up year on year from 5% in 2011, by 10 percentage points, to 15% in 2012 (2010: 6%). The slight 2011 decrease in selling expenses was mainly due to lower sales commissions resulting from the change in the geographical mix of sales, and lower warranty expenses.

In 2012, **general and administration expenses** declined by 42% year on year to EUR 19.6m in 2012 (2011: 34.0m; 2010: EUR 30.1m). This was principally a result of lower profit related elements of the administration costs, a reduced number of temporary staff and lower fees for external services and consulting. In contrast, the 13% cost increase in 2011 was due to the increased number of employees within general and administration and higher IT infrastructure and consultancy costs. General and administration expenses, relative to revenues, increased from 6% in 2011 by 3 percentage points to 9% in 2012 (2010: 4%), principally due to the lower sales volume effect in connection with the disproportionate cost reduction.

Key R&D Information	2012	2011	2010	2012-2011
R&D expenses (million EUR)	72.9	50.4	46.1	45%
R&D expenses, % of sales	32	8	6	
R&D employees (period average)	337	279	240	21%
R&D employees, % of total headcount (period average)	<b>34</b>	<b>32</b>	<b>32</b>	

**Research and development expenses** increased by 45% year on year from EUR 50.4m recorded in 2011 (2010: EUR 46.1m) to EUR 72.9m in 2012, reflecting AIXTRON's continued high level of commitment to strategic investments in research and development. In 2011 R&D costs had already gone up by 9% due to

the planned further expansion of development activities, including additional personnel and material expenses. These activities were based on the strategic necessity to maintain an intensive R&D engagement to secure the Company's technology leading position. As a result of the increased R&D investments and the decline in revenues, R&D costs as a percentage of revenues increased from 8% in 2011 (6% in 2010) to 32% in 2012.

Personnel Costs	2012	2011	2010	2012-2011	
	m EUR	m EUR	m EUR	m EUR	%
Cost of Sales	30.9	26.5	23.8	4.4	17%
Selling, General and Administrative expenses	19.3	25.9	24.3	-6.6	-26%
Research and Development costs	30.9	24.2	21.8	6.7	28%
<b>Total</b>	<b>81.1</b>	<b>76.6</b>	<b>69.9</b>	<b>4.5</b>	<b>6%</b>

With the average number of Group employees increasing from 864 in 2011 to 980 in 2012, mainly in R&D and regional sales, **personnel expenses** increased by 6% in total from EUR 76.6m in 2011 (2010: EUR 69.9m) to EUR 81.1m in 2012. For the most part, this reflects the Management's commitment to invest into focused R&D programs (the average number of R&D employees being up 21%) deemed necessary to support the Company's determination to retain its technical market leadership – a key element in the Company's long-term strategy. Mainly due to the lower revenue figure, personnel expenses, as a percentage of sales, were up 23 percentage points from 13% in 2011 (9% in 2010) to 36% in 2012. In absolute terms, the number of employees decreased from 978 as of December 31, 2011 to 964 as of December 31, 2012. Offsetting some of the increase in R&D personnel were personnel reductions during the year in Administration (116 vs. 125) and Manufacturing and Service (427 vs. 450).

2012 net **other operating income and expenses** resulted in an expense of EUR 5.5m, compared to an expense of EUR 2.0m in 2011 (2010: expense of EUR 11.1m), mainly due to the impact from currency effects not being offset by increased R&D grants received during the year.

In 2012, a net currency expense of EUR 6.9m (2011: EUR 2.1m; 2010: EUR 17.2m) was incurred largely from USD/EUR hedging contracts (EUR 6.8m).

The EUR 2.7m of R&D grants, that were received in 2012 (2011: EUR 1.4m; 2010: EUR 3.5m), were as usual recorded as other operating income.

### Operating Result

The absolute operating result decreased significantly in a year on year comparison and turned negative to EUR -132.3m in 2012 (2011: EUR 112.9m; 2010: EUR 275.5m) resulting in an EBIT margin of -58% (18% in 2011; 35% in 2010). This development was principally due to the significantly reduced gross profit, resulting from the previously described cost of sales development coupled with an increased absolute operating cost base as described above. The decline of the 2011 operating result was a result of the Company's weaker full year revenue development and the relatively higher cost base including the write-down of inventories as described above.

### Result Before Taxes

Result before taxes also turned negative and decreased from EUR 115.0m in 2011 (2010: EUR 278.2m) to EUR -129.9m in 2012, with a net finance income of EUR 2.3m in 2012 (2011: EUR 2.1m; 2010: EUR 2.7m).

Interest & Taxes	2012	2011	2010	2012-2011	
	m EUR	m EUR	m EUR	m EUR	%
<b>Net Interest Income/Expense</b>	<b>2.3</b>	<b>2.1</b>	<b>2.7</b>	<b>0.2</b>	<b>10%</b>
Interest Income	2.3	3.4	2.8	-1.1	-32%
Interest Expenses	0.0	-1.3	-0.1	1.3	-100%
<b>Tax Expenses</b>	<b>-15.5</b>	<b>-35.4</b>	<b>-85.7</b>	<b>19.9</b>	<b>-56%</b>

In 2012, AIXTRON recorded a tax expense of EUR 15.5m resulting mainly from de-recognition of previously capitalized tax assets. This adjustment has become necessary due to the lack of visibility persisting throughout the year in combination with a still pending meaningful recovery of market demand for LED manufacturing equipment (2011: tax expense of EUR 35.4m or 31%; 2010: tax expense of EUR 85.7m or 31%). Tax loss carry-forwards, remaining unrecognized as deferred tax assets in 2012 totaled EUR 90.9m (2011: EUR 16.1m, 2010: EUR 17.1m).

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

The 2012 after-tax result attributable to the equity holders of the AIXTRON SE was EUR -145.4m, down from the EUR 79.5m (13% of revenues) in 2011 (2010: EUR 192.5m or 25% of revenues).

### Net Result AIXTRON SE – Use of Results

AIXTRON SE, the parent company of the AIXTRON Group, recorded a net accumulated loss in accordance with German generally accepted accounting principles, (German GAAP) based on the **GERMAN COMMERCIAL CODE**, HGB, of EUR -51.6m for 2012 (2011: EUR 77.0m profit; 2010: EUR 124.9m profit).

AIXTRON's Executive and Supervisory Boards will propose to the shareholders' meeting that the 2012 loss should be carried forward to new account and consequently no dividend payment should be made for 2012. For the fiscal year 2011 the Company had distributed a dividend of EUR 25.4m or EUR 0.25 per share (EUR 60.7m or EUR 0.60 for 2010).

### 3.3. DEVELOPMENT OF ORDERS

Equipment Orders (in EUR million)	2012	2011	2010	2012-2011	
				m EUR	%
Equipment order intake	131.4	513.4	748.3	-382.0	-74
Equipment order backlog (end of period)	79.4	141.0	274.8	-61.6	-44

In 2012, **equipment order intake** was 74% down year on year, at EUR 131.4m (2011: EUR 513.4m; 2010: EUR 748.3m) which is a result of the ongoing reluctant investment behavior of AIXTRON's customers. As a matter of internal policy, order intake in US Dollars was recorded at a budget exchange rate for 2012, which had been set at 1.40 USD/EUR at the beginning of the year (2011: 1.35 USD/EUR; 2010: 1.50 USD/EUR).

The total **equipment order backlog** of EUR 79.4m at December 31, 2012 was 44% lower than at the same point in time in 2011 (2011: EUR 141.0m; 2010: EUR 274.8m). As of year-end 2012, the US Dollar denominated order backlog was recorded at a 2012 budget exchange rate, which had been set at 1.40 USD/EUR at the beginning of the year (2011: 1.35 USD/EUR; 2010: 1.50 USD/EUR). This order backlog was revalued at the 2013 budget rate of 1.30 USD/EUR as per January 1, 2013, leading to an opening equipment order backlog of EUR 83.8m for 2013.

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

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

In addition and reflecting current market conditions; even if an order does fulfill all of the above criteria, the Company's Management reserves the right to assess whether the actual realization of each respective system order is sufficiently likely to occur in a timely manner according to Management's opinion. When Management concludes, that there is an unacceptable degree of risk of not realizing revenue on any specific system, Management will, until that risk is considered acceptable, exclude the order, or a portion of the order, from the recorded order intake and order backlog figures, regardless of **COMPLIANCE** with requirements of the points 1-4 above.

## 4 FINANCIAL POSITION

### 4.1. CORPORATE FINANCIAL MANAGEMENT

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

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

AIXTRON conducts a large part of its business in foreign currencies, i.e. in currencies other than the Euro. The most prevalent foreign currency relevant to AIXTRON is the US Dollar. In order to hedge foreign exchange risks, the Company routinely employs currency hedging instruments. With these instruments, expected cash flows from customer orders and expected customer orders are hedged.

### 4.2. FUNDING

The Company's stated share capital (Grundkapital) as of December 31, 2012 amounted to EUR 101,975,023 (December 31, 2011: EUR 101,789,527; December 31, 2010: EUR 101,179,866) divided into 101,975,023 registered shares with a proportional interest in the share capital of EUR 1.00 per no-par value registered share.

The Company has a number of **stock option programs** in place that grant the members of the Executive Board and employees the right to purchase AIXTRON shares or American Depositary Shares ("ADS") under certain conditions. In fiscal year 2012, 185,496 stock options (2011: 609,661; 2010: 513,014 options) were exercised, resulting in delivery of 185,496 ordinary shares in total. Under the 2012 tranche of the 2007 stock option plan 31,000 new stock options were granted in fiscal year 2012 (2011 tranche of the AIXTRON stock option plan 2007: 14,000; 2010 tranche: 779,950 grants).

AIXTRON ordinary shares	Dec 31, 12	Exercised	Expired/Forfeited	Allocation	Dec 31, 11
Stock options	3,611,098	185,496	86,570	31,000	3,852,164
Underlying shares	4,274,126	185,496	91,019	31,000	4,519,641
AIXTRON ADS	Dec 31, 12	Exercised	Expired/Forfeited	Allocation	Dec 31, 11
Stock options	6,610	0	0	0	6,610
Underlying shares	6,610	0	0	0	6,610

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

The Company recorded no **bank borrowings** as of December 31, 2012, 2011 and 2010.

Where necessary, AIXTRON SE provides loans and financial security facilities to its subsidiaries to enable the business to continue to operate efficiently. The Company has granted no security interests in its own land and buildings.

The **equity ratio** increased to 84% as of December 31, 2012, compared to 81% as of December 31, 2011 (December 31, 2010: 73%), principally due to a 28% lower balance sheet total than in 2011 (-6% in 2011 compared to 2010). In 2011, the high equity ratio was largely achieved due to a EUR 38.8m increase in retained earnings.



In 2012, the return on equity (ROE) based on the negative 2012 Group's net result in proportion to the average total shareholders' equity at the start and end of the year was -26% (2011: 13%; 2010: 38%).

In order to support future developments, the Company regularly explores and assesses on an ongoing basis, potential funding opportunities available in the market.

#### 4.3. INVESTMENTS

The AIXTRON Group's total capital expenditures in fiscal year 2012 amounted to EUR 16.5m (2011: EUR 30.2m; 2010: EUR 51.9m).

In 2012, EUR 15.8m (2011: EUR 27.2m; 2010: EUR 48.6m) were related to property, plant and equipment (including testing and laboratory equipment). Thereof EUR 3.8m were related to investments mainly for the Company's Chinese training and demo facility in Suzhou and for laboratory equipment. In 2011, EUR 16.7m had been invested into the Herzogenrath R&D center (Phase II) under construction at that time.

The remaining EUR 0.7m (2011: EUR 3.0m; 2010: EUR 3.3m) were related to intangible assets including software licenses.

The decrease of EUR 11.9m in bank **DEPOSITS** with a maturity of at least three months in 2012 was recorded as cash inflow from investing activities. In 2011 bank deposits with a maturity of at least three months decreased by EUR 80.5m and were recorded as cash inflow from investing activities.

All 2012, 2011 and 2010 expenditures were funded out of operating cash flow and available cash resources.

#### 4.4. LIQUIDITY

Cash and cash equivalents including cash **DEPOSITS** with a maturity of at least three months, most of which is held in Euros (also see "Investments"), decreased by 29% or EUR 85.7m to EUR 209.5m (EUR 99.7m + EUR 109.8m financial assets) as of December 31, 2012 (December 31, 2011: EUR 172.9m + EUR 122.3m; December 31, 2010: EUR 182.1m + EUR 202.6m).

Specific items that lowered the 2012 year end liquidity came, amongst other factors, from the 2012 net loss (EUR -145.4m), reduced advance payments from customers, the dividend payment for the fiscal year 2011 and the above mentioned capital expenditures. These cash outflows were not offset by factors including stock option exercises (EUR 0.9m) and reduced trade receivables.

In 2011, the increasing factors had been the 2011 net profit (EUR 79.5m) and stock option exercises (EUR 3.2m), but in total were lower than the dividend payment (EUR 60.7m), reduced advance payments from customers, higher inventories, and the above-mentioned capital expenditures.

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

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## 5 ASSETS

#### 5.1. PROPERTY, PLANT AND EQUIPMENT

The value of property, plant and equipment increased slightly year on year by 1% to EUR 97.6m (December 31, 2011: EUR 96.2m; December 31, 2010: EUR 77.9m), principally due to laboratory related investments made during the year.

The large year on year increase recorded in 2011 was principally due to the ongoing investments at that

time in the building of the new R&D center in Herzogenrath which was recorded as tangible assets/assets under construction, and an increase in laboratory equipment (with depreciation partly offsetting new equipment investments).

## 5.2. GOODWILL

The value of goodwill remained stable at EUR 64.3m as per December 31, 2012 (December 31, 2011: EUR 64.1m; December 31, 2010: EUR 62.2m) with a minimal influence from currency translation adjustments. There were no other significant additions or impairments in the three years from 2010 through 2012.

## 5.3. OTHER INTANGIBLE ASSETS

The value of other intangible assets decreased by 32% from EUR 6.2m as per December 31, 2011 (December 31, 2010: EUR 7.0m) to EUR 4.2m as per December 31, 2012. As in 2011, differences arose mainly from amortization.

## 5.4. INVENTORIES

Post write-downs of inventories, including raw materials, work in progress and finished goods, decreased by 32% from EUR 184.6m as of December 31, 2011 (December 31, 2010: EUR 167.2m) to EUR 126.0m as of December 31, 2012. This is principally explained by the above-mentioned write-down and increased sales of systems out of previously recorded inventory.

The 2011 increase of inventories, in spite of a EUR 40.0m write-down, was mainly due to customer delayed delivery plans.

## 5.5. TRADE RECEIVABLES

Trade receivables decreased by 53% from EUR 78.6m as of December 31, 2011 to EUR 37.3m as of December 31, 2012 (EUR 88.4m as of December 31, 2010). The decline of trade receivables in both 2012 and 2011 reflects the significantly reduced business volume in the respective years.

## 5.6. LIABILITIES

Also due to the reduced business volume, trade payables decreased by 53% to EUR 9.7m as of December 31, 2012 compared to EUR 20.5m as of December 2011 (December 31, 2010: EUR 39.6m). For the same reason, other current provisions decreased by 20% from EUR 36.6m as of December 31, 2011 to EUR 29.4m as of December 31, 2012 (December 31, 2010: EUR 43.5m). Advance payments from customers as of December 31, 2012 were down to EUR 46.0m from EUR 64.9m as of December 31, 2011 (December 31, 2010: EUR 117.5m).

## 6. MANAGEMENT ASSESSMENT OF COMPANY SITUATION

Against the backdrop of a very challenging macro-economic environment, 2012 proved to be a very difficult year for AIXTRON with considerably weaker revenues and profitability. It was Management's view, at the start of 2012, that it would be a transitory year, with lower revenues and potential customer consolidation in the first half of the year, but with the prospect of a significantly better second half.

However, the economic situation deteriorated further as the year progressed, which in turn negatively impacted the timing of equipment orders and shipments. There was an increase in order intake in the second half of 2012, but nothing like as strong as had been originally expected.

As a consequence of this unrealized second half market recovery and after a thorough internal review of the immediate outlook, Management announced in October that AIXTRON would not achieve profitability for 2012. The accompanying risk assessment that was conducted as part of this business review also concluded that the likelihood of ongoing subdued demand necessitated the reduction in value of certain work in progress assemblies, components and spare parts. As a result, a substantial amount of inventories were written off.

The small increase in demand that took place in the second half of 2012 encourages Management to believe that the bottom of the current trough has been reached. However, the absolute level of market activity remains weak.

## 7. REPORT ON POST-BALANCE SHEET DATE EVENTS

There were no business events with a potentially significant effect on AIXTRON's results of operation, financial position, and net assets after the close of fiscal year 2012.

## 8 RISK REPORT

### 8.1. RISK MANAGEMENT

As an international technology company, AIXTRON is engaged in business operations worldwide and is, consequently, exposed to a variety of risks. The Company may also benefit from the opportunities related to the risks it is exposed to. To exploit these opportunities and to minimize risks, AIXTRON has established a Company-wide risk management system that is continuously being adapted to the evolving business environment and business processes.

A large number of systems and procedures for monitoring, analyzing, and documenting business risks and opportunities are deployed at several levels of the organization. The Whistleblower policy and procedure, as an example, helps to quickly identify critical issues allowing them to be addressed before critical exposure occurs and thereby preventing further escalation. Additionally, it enables employees at all levels to feel that their opinions are appreciated and respected, reinforcing a company culture where honesty and integrity are a priority in company behavior. Accurate and timely reporting is the core component of AIXTRON's risk and opportunity management. Risk managers, responsible for implementing risk reporting, have been appointed in different areas of the Company and at all subsidiaries.

To minimize risks and to capitalize on opportunities, AIXTRON pursues a forward-looking product strategy, by observing current and identifying anticipated future market trends and customer requirements and continuously strives to develop and maintain unique selling propositions related to its technology. This product strategy incorporates measures for honing the Company's profile in its target market, for building new partnerships and alliances, as well as for training third parties engaged to market, sell, and deploy AIXTRON products. In fiscal year 2012, the Company continued to monitor market trends and the activities of its competitors and evaluated market analyses and forecasts produced by leading market research companies. Project management and quality assurance systems are routinely deployed in all areas of product development where risk awareness and evaluation play a crucial role.

These measures are accompanied by a training and development program for managers and specialist employees, and by procedures to maintain and expand the necessary infrastructure when required.

AIXTRON deploys accounting, control, and forecasting software for the global monitoring and management of core enterprise information. Daily, weekly, monthly, and quarterly reporting processes ensure that information on business and market trends is regularly updated. In addition to annual budget planning, real-time forecasts are used to continuously review and update the Company's plans. As part of the Company's financial control procedures, variances between actual and budget figures are continuously identified and analyzed and they serve as the basis for corrective measures as necessary.

Furthermore, the Executive Board analyzes the Company's net assets, financial position, and results of

operations on a continuous basis. The frequent exchange of knowledge and experiences at all hierarchy levels worldwide ensures the constant and efficient flow of information as well as rapid decision-making.

The Executive Board informs and includes, where required, the Supervisory Board in all key decisions at least once every quarter, and normally at shorter intervals. The Audit Committee of the Supervisory Board meets regularly with the Executive Board to discuss, analyze, and monitor financial issues arising in the course of the Company's business activities. Internal guidelines governing risk management, insider trading, and the disclosure of share price sensitive information ensure **COMPLIANCE** with all applicable laws and the implementation of the **CORPORATE GOVERNANCE** recommendations specified in the German Corporate Governance Code.

The Company's Supervisory Board is informed about the status, plausibility, and further development of the risk management system by the Executive Board on an ongoing basis. In addition, it is the Company's auditor's duty, to inform the Supervisory Board about their audit of the risk management early warning system.

## 8.2. INTERNAL CONTROL OVER FINANCIAL REPORTING

AIXTRON's Management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in the Securities and Exchange Act of the US Code of Federal Regulations, Title 17, Chapter II, §240, 13a-15(f) or 15d-15(f)) to provide reasonable assurance regarding the reliability of its financial reporting and the preparation of financial statements for external purposes. Internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of AIXTRON; (ii) provide reasonable assurance that all transactions are recorded as necessary to permit the preparation of AIXTRON's Consolidated Financial Statements and the proper authorization of receipts and expenditures of AIXTRON are being made in accordance with authorization of AIXTRON's Management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of AIXTRON's assets that could have a material effect on AIXTRON's Consolidated Group Financial Statements.

Management assessed AIXTRON's internal control over financial reporting as of December 31, 2012, the end of its fiscal year. Management based its assessment on criteria established in the Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management's assessment included evaluation of such elements as the design and operating effectiveness of key financial reporting controls, process documentation, accounting policies and AIXTRON's overall control environment. This assessment is supported by testing and monitoring. If a test should reveal a problem, proper feedback will be given and appropriate action will be taken to resolve the issue. This internal control over the financial reporting system, designed to be dynamic, is being continually adapted to reflect the progressive development of the Company.

Based on the Company's assessment, Management has concluded that AIXTRON's internal control over financial reporting was effective as of December 31, 2012 to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes. AIXTRON's Management reviewed the results of Management's assessment jointly with the Audit Committee of AIXTRON's Supervisory Board.

Deloitte & Touche GmbH, an independent registered public accounting firm, has audited the Consolidated Financial Statements included in this annual report and has issued an attestation report on the effectiveness of AIXTRON's internal control over financial reporting pursuant to Section 404 of the U.S. **SARBANES-OXLEY ACT** of 2002.

## 8.3. SINGLE RISK FACTORS

### **Currency Exchange Risks and Other Financial Risks**

AIXTRON conducts a large part of its business in foreign currencies, i.e., in currencies other than the Euro. The most prevalent foreign currency relevant to AIXTRON is the US Dollar. Unfavorable exchange rate movements, especially the US Dollar/Euro exchange rate, will adversely affect the Company's results of operation. In order to hedge foreign exchange risks, the Company routinely employs currency hedging instruments. With these instruments, expected income from fixed client orders and from expected client orders is hedged. Results from these hedging contracts could also negatively affect the Company's results of operation.

AIXTRON conducts business with a large number of customers worldwide and is therefore exposed to the risk of bad debt losses. This potential risk is significantly reduced by down payments, letters of credit or bank guarantees. Further information on this subject is contained in section "Trade receivables and other current assets" of the notes to the Consolidated Financial Statements for 2012.

AIXTRON assesses the financial strength of its banking partners regularly and will take appropriate measures should it detect any significant deterioration or risk.

The Company's need for cash is generally provided for, through operating cash flows and, to a smaller extent, through grants. The Company currently commands adequate cash and cash equivalents to meet business needs and carries no debt. However, should AIXTRON not be able to generate sufficient sales revenues, due to a weaker market demand, then this may significantly harm operating results and cash flows in the future. If AIXTRON cannot quickly and appropriately realign its business structure in line with adverse conditions, the need for additional external funding may arise. If it is not possible to acquire sufficient funding, AIXTRON could be forced to delay or reduce operations.

### **Company-Specific Risks, Market and Competition Risks**

The **SEMICONDUCTOR** industries can be highly volatile and unpredictable, which may adversely affect AIXTRON's operating results and result in significant volatility in the market price of its ordinary shares and ADS.

A persistence of the current market environment with subdued market demand for **LED** manufacturing equipment would lead to the order intake situation not improving. This could have a significantly adverse impact on the Company's net assets, financial position and results of operations.

The semiconductor manufacturing equipment industry can be affected by the cyclical nature of the semiconductor industry. Although **SEMICONDUCTORS** are used in many different products, the markets for those products are interrelated to various degrees. The industry has historically experienced sudden changes in supply and demand for semiconductors. The timing, length and severity of these industry cycles are difficult to predict. During periods of declining demand for semiconductor manufacturing equipment, AIXTRON needs to be able to quickly and effectively align its cost structure with prevailing market conditions, to manage its inventory levels to reduce the possibility of future inventory write-downs resulting from obsolescence, and to motivate and retain key employees. Because a certain proportion of AIXTRON's costs are fixed in the near-term, the Company's ability to reduce expenses quickly in response to revenue shortfalls is limited. During periods of rapid growth, AIXTRON's business must be able to acquire and/or develop sufficient manufacturing capacity and inventory to meet customer demand, and to attract, hire, assimilate and retain a sufficient number of qualified people.

The Company's customers may experience difficulties in acquiring manufacturing facilities or maintaining a sufficient flow of raw materials or accessing cash to achieve their increased manufacturing output. Should this occur, customers could request to delay AIXTRON system shipments.

The Company's customers often accelerate or delay expenditures, as well as attempt to cancel or reschedule their orders, in reaction to variations in their businesses or market conditions. As a result, AIXTRON must be able to react quickly to these changes in supply and demand. Failure to quickly align the Company's cost structure and manufacturing capabilities with industry fluctuations could lead to significant losses or a failure to capitalize on increased demand opportunities. In either event, the results of operations may be adversely affected, which could result in significant volatility in the market price of the Company's ordinary shares and ADS.

To partly protect AIXTRON from negative effects of the cyclicity of the semiconductor markets, AIXTRON outsources a large part of its production to third party suppliers. To minimize risks in this area, the Company generally dual sources the supply of procured key items.

AIXTRON invests heavily into R&D and AIXTRON's future success depends highly on its ability to translate the knowledge gained from R&D quickly and, in line with the technological and commercial market needs, into commercial success. Should this fail, this could have a significantly adverse impact on the Company's net assets, financial position, and results of operations.

Because in the past there has been substantial industry litigation regarding patents and other intellectual property rights infringements, AIXTRON cannot exclude the possibility of itself infringing upon intellectual property rights of third parties or of itself being held liable for allegedly infringing upon third party intellectual property rights. The costs associated with such litigation could be substantial. AIXTRON therefore pursues a continuous assessment of its intellectual property.

Information on risks can also be found in section "Risk Factors" in AIXTRON's 2012 20-F-Report, filed with the U.S. Securities and Exchange Commission on February 28, 2013.

#### 8.4. OVERALL STATEMENT TO THE RISK SITUATION

Neither within fiscal year 2012 nor at the time of writing has the Executive Board identified any risks that could jeopardize the Company's continued existence.

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## 9 REPORT ON EXPECTED DEVELOPMENTS

### 9.1. FUTURE STRATEGIC POSITIONING

The development of state-of-the-art material **DEPOSITION** technology remains AIXTRON's core competency. It is an area where the Company has developed a global leadership position. AIXTRON Management intends to keep this focus and positioning while at the same time expanding this core know-how into both existing and emerging markets. AIXTRON remains committed to investing in R&D to not only maintain the Company's leading technology position in **MOCVD** equipment but also to enable greater penetration into markets such as for power management, organic **SEMICONDUCTORS** and next generation memory applications.

AIXTRON has a leading position in the area of special **SILICON** Carbide ("SiC"), epitaxial equipment utilizing its Hot-Wall **PLANETARY REACTOR**<sup>®</sup> technology. This leading position will be further strengthened over the coming years with the expected adoption by customers of AIXTRON's 6x6 inch multiwafer platform. Customers in Europe, USA, China, Japan and South Korea are already using AIXTRON's SiC equipment for the production of low energy consuming, fast switching diodes. These **DEVICE** applications can be found in power solutions for computer servers, flat panel TVs and solar inverters.

Furthermore, the Company is active in supplying equipment to the power electronics market for the production of Gallium Nitride-on-Silicon ("GaN-on-Si") **DEVICES**, which are expected to progressively replace many conventional Silicon power management devices over the next few years.

AIXTRON will also continue to implement its strategy to address the large area organic **SEMICONDUCTOR** application markets with the Company's deposition technology for organic materials, **OVPD**<sup>®</sup> and **PVPD**<sup>®</sup>.

The Company also aims to make further inroads into the research community with its **PECVD** technology, aimed at manufacturing Carbon Nanostructures including **CARBON NANOTUBES**, Carbon Nanowires and Graphene.

AIXTRON's Silicon team has developed the high throughput QXP-8300 **ALD** deposition tool aimed specifically at providing innovative solutions for the next-generation memory and logic device markets. AIXTRON's QXP product has been recently production qualified by a major Korean **CHIP** manufacturer and AIXTRON expects to generate significant revenues with this technology as the industry moves to and beyond the 28nm technology node.

## 9.2. FUTURE MARKET ENVIRONMENT AND OPPORTUNITIES

In their World Economic Outlook update report published on January 23, 2013, the IMF expects global growth to increase to 3.5% in 2013 and 4.1% in 2014 (2012: 3.2%). Despite their expectations of gradually improving economic conditions there are still some generally recognized downside risks, including renewed setbacks in the Euro area and excessive near-term fiscal consolidation in the United States.

Gartner Dataquest estimated (in their December 2012 report) that **SEMICONDUCTOR** capital spending in 2012 declined by 11% to USD 59.4bn. In the same report, Gartner forecasts a further decline in semiconductor capital spending of circa 15% to USD 50bn in 2013, with strong growth returning in 2014 (to USD 61.2bn).

In **WAFER** Fab equipment, the segment where AIXTRON competes, Gartner expects a 10% annual decline in the size of the market from USD 29.9bn to USD 27bn in 2013, before growth returns in 2014 (to USD 32.9bn).

According to some financial and market analysts, the value of **MOCVD** equipment was expected to have reached a range of USD 450 million to USD 750 million by the end of 2012. It is expected to develop towards a range of USD 500 million to USD 850 million in 2013, as the market begins to recover from the current excess of manufacturing capacity for **LEDS**. In 2014, the same analysts expect the investment activity to pick up again, leading to a market size range of USD 650 million to USD 1.3 billion.

According to one market analyst's opinion, the total **SILICON** power management **DEVICE** market is expected to grow from USD 10.2bn to 14.2bn between 2011 and 2016 (Gartner, August 2012). The SiC and GaN power electronics **DEVICES**, which can be produced using AIXTRON equipment, are estimated to generate a USD 600 million device market by 2016. Estimates of an accessible market size for the respective production equipment is however not meaningful at this point in time.

AIXTRON Management believes that the markets AIXTRON addresses with its organic large area, **OVPD**<sup>®</sup>, **PVPD**<sup>®</sup> and **PECVD** technologies bear substantial growth potential in the mid- to long-term. This growth potential stems from the necessity of the device manufacturers to invest into technologies that enable them to achieve improved features and aggressive cost reduction targets. In the highly competitive market space of TVs or **DISPLAYS**, efficient manufacturing technologies such as those provided by AIXTRON are required to be able to compete. However, as with all emerging technologies, there is an element of risk associated with the timing of AIXTRON's technology being adopted by the market. Estimates of an accessible **OLED** or Carbon Nanostructure equipment market size or market share are neither available nor meaningful at this point in time.

The specific market niche to be addressed by AIXTRON's **ALD** technology for the production of specialized applications such as gate stacks and capacitors is estimated to be valued at USD 359m by the end of 2012 (2013e: USD 337m; 2014e: USD 411m; Gartner Dataquest in October 2012). We believe that the recent successful production qualification at a major **DRAM** manufacturer will support the market adoption of AIXTRON's technologies potentially leading to disproportionate growth in this space.

AIXTRON believes that the following market trends and opportunities in the relevant end-user markets could have a positive effect on future business:

### Short-Term

- Increasing adoption of LEDs for exterior, public infrastructure and commercial lighting.
- Increasing adoption of LEDs for consumer and residential **GENERAL LIGHTING** applications.
- Increased emergence of GaN based devices for energy efficient power electronics.
- Development of next generation NAND, DRAM and PRAM memory devices.
- Increased emergence of high volume Silicon Carbide (SiC) production applications and emerging hybrid and electrical automotive and photovoltaic **TRANSISTOR** applications.

### Mid-Term

- Further progress in research activities leading to technologies for OLED lighting and displays as

well as organic material large area **DEPOSITION**.

- Further progress in the development of GaN-on-Silicon based devices for energy efficient power electronics or LEDs.
- Increased emergence and further development of plastic electronics / flexible organic **TFT** backplanes. Increased development activity for specialized compound solar cell applications.

### Long-Term

- Progress in the convergence of **COMPOUND SEMICONDUCTOR** material applications as substituting materials in the silicon semiconductor industry.
- Development of applications using Carbon Nanostructures (**CARBON NANOTUBES**, Carbon Nanowires, Graphene).
- Development of UV **LED** applications, e.g. for water purification.

## 9.3. EXPECTED RESULTS OF OPERATIONS AND FINANCIAL POSITION

Global demand for **LEDS** continues to grow due to the increasing penetration of **LED** TVs and the early adoption of LEDs into the **GENERAL LIGHTING** market. Despite this encouraging mid- to long-term outlook, AIXTRON customers currently remain reluctant to meaningfully invest into additional LED manufacturing capacity.

However, Management expects the demand for **MOCVD** production equipment to improve as demand for LEDs continues to increase. Nevertheless, the exact timing of that pickup is hard to predict and order visibility remains low.

Additionally, Management sees incremental equipment demand opportunities developing from emerging MOCVD applications and other technology markets, including **SILICON** and Organic **SEMICONDUCTOR** applications.

Despite the generally more positive outlook for the year 2013, Management is still not able to offer a precise revenue and EBIT margin guidance for the year, due to the prevailing low visibility at this time.

Under the circumstance of a meaningful market recovery, Management sees 2013 being better than 2012 both in terms of revenues and earnings with 2014 potentially being an even stronger year. The major short term growth driver will be solid growth in the LED general lighting market. However, the macroeconomic environment, particularly in Europe, remains fragile and this could impact the timing risk on predicted orders and shipments. But overall there are indicators of further improving momentum and Management clearly believes that the worst is behind us and that orders for AIXTRON products will increase from the current trough levels.

We will however continue to reduce cost and increase the efficiency of the organization, with a specific focus on cash flow in 2013.

In Management's opinion, the positive outlook for AIXTRON's targeted end-markets should lead to stronger demand for MOCVD, Silicon and Organic **DEPOSITION** technologies as the global economy and AIXTRON's targeted end-markets improve.

Management remains committed to a focused investment policy in R&D, thereby enabling us to address substantial future business opportunities.

We continue to expect not to require any external bank debt financing in 2013 or 2014. We also continue to anticipate retaining our strong equity base throughout 2013 and 2014.

Due to our proven ability to develop and market best-in-class enabling deposition equipment for a variety of markets, we continue to believe in the positive short- mid- and long-term outlook for AIXTRON and its targeted markets.

As at December 31, 2012, AIXTRON had no binding agreements for participation financing, company acquisition or transfers of parts of the Company.



## Responsibility Statement

Responsibility Statement required by Section 37 No. 1 of the WpHG, **GERMAN SECURITIES TRADING ACT** ("Wertpapierhandelsgesetz") in conjunction with Sections 297(2) Sentence 4 and 315(1) sentence 6 of the Handelsgesetzbuch (HGB – **GERMAN COMMERCIAL CODE**) for the Consolidated Financial Statements:

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

Herzogenrath, February 26, 2013

AIXTRON SE, Herzogenrath

Executive Board

Paul Hyland

Wolfgang Breme

Dr. Bernd Schulte

# 2012 COMPACT

227,832,000 <small>EUR</small>	↔	Revenues
430,000 <small>EUR</small>	↔	Gross profit
-132,267,000 <small>EUR</small>	↔	Operating result (EBIT)
-145,436,000 <small>EUR</small>	↔	Net income
-1.44 <small>EUR</small>	↔	Basic net result per share
72,862,000 <small>EUR</small>	↔	Research and Development costs
131,448,000 <small>EUR</small>	↔	Equipment order intake
79,428,000 <small>EUR</small>	↔	Equipment order backlog
470,020,000 <small>EUR</small>	↔	Shareholders' equity
559,971,000 <small>EUR</small>	↔	Balance sheet total
101,975,023	↔	Number of shares

# CONSOLIDATED INCOME STATEMENT

	Notes	2012	2011	2010
<i>in EUR thousands</i>				
Revenues	3	227,832	610,960	783,775
Cost of sales		227,402	379,529	372,018
<b>Gross profit</b>		<b>430</b>	<b>231,431</b>	<b>411,757</b>
Selling expenses		34,830	32,138	48,935
General administration expenses		19,551	33,978	30,076
Research and development costs	4	72,862	50,410	46,126
Other operating income	5	3,121	2,394	6,659
Other operating expenses	6	8,575	4,419	17,769
<b>Operating result</b>		<b>-132,267</b>	<b>112,880</b>	<b>275,510</b>
Finance Income		2,353	3,393	2,851
Finance Expense		29	1,306	141
<b>Net Finance Income</b>	8	<b>2,324</b>	<b>2,087</b>	<b>2,710</b>
<b>Result before taxes</b>		<b>-129,943</b>	<b>114,967</b>	<b>278,220</b>
Taxes on income/loss	9	15,493	35,431	85,724
<b>Profit or loss for the year</b>		<b>-145,436</b>	<b>79,536</b>	<b>192,496</b>
<b>Thereof attributable to the owners of AIXTRON SE</b>		<b>-145,436</b>	<b>79,536</b>	<b>192,496</b>
Basic earnings or loss per share (EUR)	21	-1.44	0.79	1.93
Diluted earnings or loss per share (EUR)	21	-1.44	0.78	1.89

See accompanying notes to consolidated financial statements.

AIXTRON Group – Consolidated Income Statement for the year ended December 31, 2012

# CONSOLIDATED STATEMENT OF OTHER COMPREHENSIVE INCOME

<i>in EUR thousands</i>	Note	2012	2011	2010
<b>Profit or loss for the year</b>		<b>-145,436</b>	<b>79,536</b>	<b>192,496</b>
Losses/gains from derivative financial instruments before taxes	20	9,226	-9,032	1,224
Deferred taxes on derivative financial instruments	14	-2,788	2,934	-449
Currency translation adjustment		1,512	6,930	1,454
<b>Other comprehensive income</b>		<b>7,950</b>	<b>832</b>	<b>2,229</b>
<b>Total comprehensive income or loss for the year</b>		<b>-137,486</b>	<b>80,368</b>	<b>194,725</b>
Thereof attributable to the owners of Aixtron SE		-137,486	80,368	194,725

See accompanying notes to consolidated financial statements.

AIXTRON Group – Consolidated Statement of Other Comprehensive Income for the year ended December 31, 2012

# CONSOLIDATED STATEMENT OF FINANCIAL POSITION

<i>in EUR thousands</i>	Note	31.12.12	31.12.11
<b>Assets</b>			
Property, plant and equipment	11	97,552	96,176
Goodwill	12	64,346	64,078
Other intangible assets	12	4,218	6,205
Other non-current assets	13	677	720
Deferred tax assets	14	5,388	28,347
Tax receivables	15	236	291
<b>Total non-current assets</b>		<b>172,417</b>	<b>195,817</b>
Inventories	16	125,986	184,553
Trade receivables less allowance kEUR 1,819 (2011: kEUR 389)	17	37,291	78,630
Current tax receivables	10	7,127	8,150
Other current assets	17	7,660	14,894
Other financial assets	18	109,756	122,323
Cash and cash equivalents	19	99,734	172,892
<b>Total current assets</b>		<b>387,554</b>	<b>581,442</b>
<b>Total assets</b>		<b>559,971</b>	<b>777,259</b>
<b>Liabilities and shareholders' equity</b>			
Fully paid capital, Number of shares: 100,896,098 (2011: 100,710,602)		100,896	100,711
Additional paid-in capital		278,952	274,816
Retained earnings		92,725	263,316
Cumulated comprehensive income and expense recognised in equity		-2,553	-10,503
<b>Total shareholders' equity</b>	20	<b>470,020</b>	<b>628,340</b>
Other non-current payables		117	217
Other non-current provisions	24	1,206	0
Deferred tax liabilities	14	123	140
<b>Total non-current liabilities</b>		<b>1,446</b>	<b>357</b>
Trade payables	25	9,683	20,527
Advance payments from customers		45,969	64,900
Other current provisions	24	28,204	36,558
Other current liabilities	25	3,783	20,076
Current tax payables	10	770	6,404
Deferred revenues		96	97
<b>Total current liabilities</b>		<b>88,505</b>	<b>148,562</b>
<b>Total liabilities</b>		<b>89,951</b>	<b>148,919</b>
<b>Total liabilities and shareholders' equity</b>		<b>559,971</b>	<b>777,259</b>

See accompanying notes to consolidated financial statements.

AIXTRON Group – Consolidated Statement of Financial Position for the year ended December 31, 2012

# CONSOLIDATED STATEMENT OF CASH FLOW

<i>in EUR thousands</i>	Note	2012	2011	2010
<b>Cash inflow/outflow from operating activities</b>				
Profit or loss for the year		-145,436	79,536	192,496
<b>Reconciliation between profit or loss and cash inflow/outflow from operating activities</b>				
Expense from share-based payments		3,439	5,177	3,645
Depreciation and amortization expense		16,641	12,258	13,101
Net result from disposal of property, plant and equipment		149	49	-1
Deferred income taxes		22,855	-8,739	-5,053
Other non-cash expenses		0	0	-3,669
<b>Change in</b>				
Inventories		59,571	-16,390	-75,870
Trade receivables		41,435	9,524	-37,718
Other assets		14,943	-13,653	-263
Trade payables		-10,871	-19,274	16,425
Provisions and other liabilities		-28,743	-2,132	16,935
Deferred revenues		0	57	0
Non-current liabilities		-89	-813	-1,146
Advance payments from customers		-19,131	-51,945	28,815
<b>Cash inflow/outflow from operating activities</b>		<b>-45,237</b>	<b>-6,345</b>	<b>147,697</b>
<b>Cash inflow/outflow from investing activities</b>				
Cost related to acquisitions		-234	0	0
Capital expenditures in property, plant and equipment		-15,768	-27,184	-48,645
Capital expenditures in intangible assets		-715	-2,978	-3,245
Proceeds from disposal of fixed assets		342	77	105
Bank DEPOSITS with a maturity of more than 90 days	18	11,934	80,537	-113,602
<b>Cash inflow/outflow from investing activities</b>		<b>-4,441</b>	<b>50,452</b>	<b>-165,387</b>
<b>Cash inflow/outflow from financing activities</b>				
Dividend paid to shareholders		-25,155	-60,708	-15,100
Proceeds from issue of equity shares		883	3,179	3,502
<b>Cash inflow/outflow from financing activities</b>		<b>-24,272</b>	<b>-57,529</b>	<b>-11,598</b>
Effect of changes in exchange rates on cash and cash equivalents		792	4,196	214
Net change in cash and cash equivalents		-73,158	-9,226	-29,074
Cash and cash equivalents at the beginning of the period		172,892	182,118	211,192
<b>Cash and cash equivalents at the end of the period</b>	19	<b>99,734</b>	<b>172,892</b>	<b>182,118</b>
Interest paid		-28	-140	-261
Interest received		2,091	2,675	1,772
Income taxes paid		-7,440	-54,651	-90,344
Income taxes received		7,199	211	86

See accompanying notes to consolidated financial statements.

# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

<i>in EUR thousands</i>	Subscribed capital under IFRS	Additional paid-in-capital	Currency translation	Derivative financial instruments	Retained Earnings/Accumulated deficit	Shareholders' equity attributable to the owners of AIXTRON SE
<b>Balance at January 1, 2010</b>	99,588	260,413	-12,449	-1,115	67,092	413,529
Dividends to shareholders (EUR 0.15 per share)					-15,100	-15,100
Share based Payments		3,645				3,645
Issue of shares for options	513	2,989				3,502
Currency translation		23				23
Net Income for the year					192,496	192,496
Other comprehensive income			1,454	775		2,229
Total comprehensive income for the year	0	0	1,454	775	192,496	194,725
<b>Balance December 31, 2010 and January 1, 2011</b>	100,101	267,070	-10,995	-340	244,488	600,324
Dividends to shareholders (EUR 0.60 per share)					-60,708	-60,708
Share based Payments		5,177				5,177
Issue of shares for options	610	2,569				3,179
Net Income for the year					79,536	79,536
Other comprehensive income			6,930	-6,098		832
Total comprehensive income for the year	0	0	6,930	-6,098	79,536	80,368
<b>Balance December 31, 2011 and January 1, 2012</b>	100,711	274,816	-4,065	-6,438	263,316	628,340
Dividends to shareholders (EUR 0.25 per share)					-25,155	-25,155
Share based Payments		3,438				3,438
Issue of shares for options	185	698				883
Net Loss for the year					-145,436	-145,436
Other comprehensive income			1,512	6,438		7,950
Total comprehensive income (loss) for the year	0	0	1,512	6,438	-145,436	-137,486
<b>Balance December 31, 2012</b>	100,896	278,952	-2,553	0	92,725	470,020

See accompanying notes to consolidated financial statements.

AIXTRON Group – Consolidated Statement of Changes in Equity for the year ended December 31, 2012

# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

## 1. GENERAL PRINCIPLES

AIXTRON SE is incorporated as a European Company (Societas Europaea) under the laws of the Federal Republic of Germany. The Company is domiciled at Kaiserstraße 98, 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 "Company") 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 315a of HGB (German Commercial Law).

AIXTRON is a leading provider of **DEPOSITION** equipment to the **SEMICONDUCTOR** and **COMPOUND SEMICONDUCTOR** industry. The Company's technology solutions are used by a diverse range of customers worldwide to build advanced components for electronic and opto-electronic applications based on compound, **SILICON**, or organic semiconductor materials. Such components are used in fibre optic communication systems, wireless and mobile telephony applications, optical and electronic storage **DEVICES**, computing, signalling 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 27, 2013 for approval and publication.

## 2. SIGNIFICANT ACCOUNTING POLICIES

### (a) Companies included in consolidation

Companies included in consolidation are the parent company, AIXTRON SE, and 8 companies, in which AIXTRON SE has a 100% direct shareholding or control. 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). Some items in the statement of financial position and income



statement have been combined under one heading to improve the clarity of presentation. Such items are disclosed and commented on individually in the notes.

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 recognized 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 Company's financial statements are described in Note 37.

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. Control exists when the Company has the power, directly or indirectly, to govern the financial and operating policies of an entity so as to obtain benefits from its activities. The financial statements of subsidiaries are included in the consolidated financial statements from the date that controlling influence commences.

### **(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 ruling at 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 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**

The Company 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 Company 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 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 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 years
- Machinery and equipment 3 - 14 years
- Other plant, factory and office equipment 2 - 14 years

## **(f) Intangible assets**

#### **(i) Goodwill**

All 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. In respect of business combinations prior to this date, goodwill, determined under the previous accounting principles (US-GAAP), applied until 2004, and has continued to be recognized at its then carrying amount.

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 did not capitalize such costs.

#### **(iii) Other intangible assets**

Other intangible assets that are acquired by the Company 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 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 rights 5 - 18 years
- Customer base and product and technology know-how 6 - 7 years

### **(g) Financial instruments**

#### **(i) Financial assets**

Financial assets are classified into the following specific categories: financial assets 'at fair value through the profit or loss' (FVTPL), 'held to maturity investments', and 'loans and receivables'. The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition.

Investments are recognized at the contract date, and are initially measured at fair value, plus transaction costs, except for those financial assets classified as at fair value through profit or loss, which are initially measured at fair value.

#### **(ii) Financial assets at FVTPL**

Financial assets are classified as at FVTPL where the asset is either

- held for trading or
- it is designated as at FVTPL.

Financial assets at FVTPL are stated at fair value, with any resultant gain or loss recognized in profit or loss. The 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.

#### **(iii) Held to maturity investments**

Investments with fixed or determinable payments and fixed maturity dates that the Company intends to and has the ability to hold to maturity are classified as held to maturity investments. Held to maturity investments are recorded at amortized cost using the effective interest rate method less any impairment, with revenue recognized on an effective yield basis.

#### **(iv) Trade receivables**

Trade receivables and other receivables that have fixed or determinable payments that are not quoted on an active market are classified as loans and receivables. Loans and receivables are measured at amortized cost using the effective interest rate method, less any impairment.

#### **(v) Impairment of financial assets**

Financial assets are assessed for indicators of impairment at each balance sheet date. Financial assets are impaired where there is objective evidence that, as a result of one or more events that occurred after the initial recognition of the financial asset, the estimated future cash flows of the investment have been impacted.

The carrying amount of the financial asset is reduced by the impairment loss directly for all financial assets with the exception of trade receivables, where the carrying amount is reduced through the use of an allowance account. When a trade receivable is considered uncollectible, it is written off against the allowance account. Subsequent recoveries of amounts previously written off are credited against the allowance account. Changes in the carrying amount of the allowance account are recognized in profit or loss.

If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed through profit or loss to the extent that the carrying amount of the investment at the date the impairment is reversed does not exceed what the amortised cost would have been had the impairment not been recognized.

#### **(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 "other financial liabilities".

#### **(ix) Financial liabilities at FVTPL**

Financial liabilities are classified as at FVTPL where the liability is either

- held for trading or
- it is designated as at FVTPL.

Financial liabilities at FVTPL are stated at fair value, with any resultant gain or loss recognized in profit or loss. The 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.

#### **(x) Other financial liabilities**

Other financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs. Other financial liabilities are subsequently measured at amortized cost using the effective interest rate method, with interest expense recognized on an effective yield basis.

#### **(xi) Derivative financial instruments and hedge accounting**

The Company's activities expose it primarily to the financial risks of changes in foreign exchange currency rates (see note 26). The Company uses foreign exchange forward contracts to hedge these exposures. The Company 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.

Changes in the fair value of derivative financial instruments that are designated as effective hedges of future cash flows are recognized directly in equity and the ineffective portion is

recognized immediately in the income statement.

Changes in fair value of derivative financial instruments that do not qualify for hedge accounting are recognized in the income statement as they arise.

Hedge accounting is discontinued when the derivative financial instrument expires or is sold, terminated, or exercised, or no longer qualifies for hedge accounting. At that time, any cumulative gain or loss on the derivative financial instrument recognized in equity is retained in equity until the forecasted transaction occurs. If a hedged transaction is no longer expected to occur, the net cumulative gain or loss recognized in equity is transferred to net profit or loss for the period.

## (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.

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

## (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 company 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 (see note 21) 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 and convertible bonds were converted, unless such conversion 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) Defined benefit plans

The obligation from defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in return for their service in prior periods; that benefit is discounted to determine its present value. The calculation is performed by a qualified actuary using the projected unit credit method.

### (iii) Share-based payment transactions

The stock option programs allows members of the Executive Board, management and employees of the Company to acquire shares/ADS of the Company. These stock option programs are accounted for by AIXTRON according to IFRS 2. The fair value of options granted after November 7, 2002 is recognized as personnel expense with a corresponding increase in the 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 binomial lattice 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 Company 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 Company normally offers one, occasionally 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, and are recorded as a selling expense. 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 Company 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 Company's warranty liability include the historical and anticipated rates of warranty claims and cost per claim.

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

### (ii) Onerous contracts

A provision for onerous contracts is recognized when the expected economic benefits to be derived by the Company 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

Revenue is generated from the sale and installation of equipment, spare parts and maintenance services. The sale of equipment involves a customer acceptance test at AIXTRON's production facility. After successful completion of this test, the equipment is dismantled and packaged for shipment. Upon arrival at the customer site the equipment is reassembled and installed, which is a service generally performed by AIXTRON engineers. 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.

Revenues from the sale of products that have been demonstrated to meet product specification requirements are recognized upon shipment to the customer, if a full customer acceptance test has been successfully completed at the AIXTRON production facility and the significant risks and rewards of ownership have passed to the customer.

Revenue relating to the installation of the equipment at the customer's site is recognized when the installation is completed and the final customer acceptance has been confirmed.

The portion of the contract revenue deferred until completion of the installation services is determined based on either the fair value of the installation services or, if the company determines that there may be a risk that the economic benefits of installation services may not flow to the company, 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.

Revenue related to products where meeting the product specification requirements has not yet been demonstrated, or where specific rights of return have been negotiated, is recognized only upon final customer acceptance.

Revenue on the sale of spare parts is recognized when title and risk passes to the customer, generally upon shipment. Revenue from maintenance services is recognized as the services are provided.

## (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. 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

### **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 distinguishable component of the Company that is engaged in business activities and whose operating results are reviewed regularly by the Chief Operating Decision Maker, which the Company considers to be its Executive Board. The Executive Board regularly reviews financial information on a consolidated group basis. 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) Recently issued accounting standards

In the current year, the following new and revised standards have been adopted. Their adoption has not had any significant impact on the amounts reported in these financial statements.

### IFRS 13 – Fair Value Measurement

The company has applied IFRS 13 in advance of its effective date. The standard defines fair value; sets out in a single IFRS a framework for measuring fair value; and requires disclosures about fair value measurements. The application of the new standard requires a change in the method of measuring the fair value of goodwill from a discounted cash flow model based on internal projections to a valuation based on the company's quoted share price, which is observable data in an active market. The standard also requires certain disclosures concerning inputs used in the determination of fair values.



Amendments to IFRS 7 – Financial Instruments: Disclosures

The amendments increase the disclosure requirements for certain financial instruments.

Amendments to IAS 12 – Income Taxes

This standard applies to deferred taxes on investment properties. The company has no such properties.

At the date of authorisation 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 1 (amended)	Government Loans
Annual Improvements to IFRSs	(2009-2011) Cycle
IFRS 9	Financial Instruments
IFRS 10	Consolidated Financial Statements
IFRS 10, IFRS 12 (amended) and IAS 27	Investment Entities
IFRS 11	Joint Arrangements
IFRS 12	Disclosure of Interests in Other Entities
IAS 1 (amended)	Presentation of Items of Other Comprehensive Income
IAS 19 (revised)	Employee benefits
IAS 27 (revised)	Separate Financial Statements
IAS 28 (revised)	Investments in Associates and Joint Ventures
IAS 32 (amended)	Offsetting Financial Assets and Financial Liabilities
IFRIC 20	Stripping Costs in the Production Phase of a Surface Mine

The Company does not expect that the adoption of these standards will have a material impact on the financial statements of the Group in future periods.

### 3. SEGMENT REPORTING

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.

The Executive Board regularly reviews financial information 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 recognised as disclosed in Note 2 (n).

The company values the revenue deferred for installation services, using a market based approach, based on observed transactions for all such contracts involving multiple elements where revenue has been recognised 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 2012 the modal value was observed in approximately 90% of all such contracts.

For contracts where revenue is recognised 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

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Equipment revenues	176,865	556,275	735,723
Spares and service	50,967	54,685	48,052
<b>Revenue from external customers</b>	<b>227,832</b>	<b>610,960</b>	<b>783,775</b>
Inventories recognized as an expense	113,083	255,357	298,872
Obsolescence expense	40,947	41,602	-5,880
Employee benefits	81,076	76,494	69,964
Depreciation	11,165	8,960	8,732
Impairment	2,756	0	0
Amortization	2,720	3,540	4,369
Other expenses	104,566	112,439	121,621
Net foreign exchange losses	6,841	2,082	17,246
Other operating income	-3,055	-2,394	-6,659
<b>Segment profit</b>	<b>-132,267</b>	<b>112,880</b>	<b>275,510</b>
Investment revenue	2,353	3,393	2,851
Finance Costs	-29	-1,306	-141
<b>Profit before tax</b>	<b>-129,943</b>	<b>114,967</b>	<b>278,220</b>

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.

## Segment assets and liabilities

<i>in EUR thousands</i>	<b>Dec 31, 2012</b>	<b>Dec 31, 2011</b>
Segment assets	337,730	445,256
Unallocated assets	222,241	332,003
<b>Total Group assets</b>	<b>559,971</b>	<b>777,259</b>
<i>in EUR thousands</i>	<b>Dec 31, 2012</b>	<b>Dec 31, 2011</b>
Segment liabilities	89,057	142,375
Unallocated liabilities	894	6,544
<b>Total Group liabilities</b>	<b>89,951</b>	<b>148,919</b>

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 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 reduced by kEUR 43 during 2012 (decreased by kEUR 87 in 2011).

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

## 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.

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Asia	177,490	547,782	716,872
Europe	21,352	26,322	31,066
Americas	28,990	36,856	35,837
<b>Total</b>	<b>227,832</b>	<b>610,960</b>	<b>783,775</b>

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

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Germany	10,105	10,929	21,314
USA	28,868	35,871	35,837
Korea	29,759	57,744	125,489
China	71,611	314,900	193,768
Taiwan	47,147	157,446	376,899

Sales to one customer amounted to 11% of Group revenues in 2012. In 2011 and in 2010 there were no customers who accounted for more than 10% of Group revenues.

<i>in EUR thousands</i>	<b>Non-current assets</b>	
	<b>Dec 31, 2012</b>	<b>Dec 31, 2011</b>
Asia	5,352	1,604
Europe excluding Germany	14,459	14,873
Germany	144,745	96,109
USA	2,237	54,594
<b>Total Group non current assets</b>	<b>166,793</b>	<b>167,180</b>

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 72,862, kEUR 50,410 and kEUR 46,126 for the years ended December 31, 2012, 2011 and 2010 respectively.

After deducting project funding received and not repayable, net expenses for research and development were kEUR 70,201, kEUR 49,003 and kEUR 42,588 for the years ended December 31, 2012, 2011 and 2010 respectively.

#### 5. OTHER OPERATING INCOME

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Research and development funding	2,661	1,407	3,538
Income from resolved contract obligations			1,800
Income from the reversal of provisions and the write-off of debts	78	92	741
Gain from the disposal of fixed assets		17	4
Compensation payments	11	2	154
Foreign exchange gains	136	367	248
Other	235	509	174
	<b>3,121</b>	<b>2,394</b>	<b>6,659</b>

The total amount of exchange gains and losses (see also note 6) recognized in profit or loss was a loss of kEUR -6,841, (2011 loss kEUR -2,082; 2010 loss kEUR -17,246).

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Foreign exchange gains	136	367	248
Foreign exchange losses (see note 6)	-6,977	-2,449	-17,494
Net foreign exchange gains (losses)	<b>-6,841</b>	<b>-2,082</b>	<b>-17,246</b>
Gains (losses) arising on financial instruments at FVTPL	-6,774	-1,320	-20,877
Other foreign exchange gains (losses)	-67	-762	3,631
Net foreign exchange gains (losses)	<b>-6,841</b>	<b>-2,082</b>	<b>-17,246</b>

## 6. OTHER OPERATING EXPENSES

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Foreign exchange losses	6,977	2,449	17,494
Losses from the disposal of fixed assets	149	66	3
Additions to allowances for receivables or write-off of receivables	1,449	101	270
Customs penalty		1,334	2
Other		469	
	<b>8,575</b>	<b>4,419</b>	<b>17,769</b>

## 7. PERSONNEL EXPENSE

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Payroll	67,179	63,315	58,534
Social insurance contributions	8,732	6,777	5,767
Decrease/Increase in defined benefit plan obligations		-17	866
Expense for defined contribution plans	1,712	1,355	1,152
Stock option expense	3,453	5,064	3,645
	<b>81,076</b>	<b>76,494</b>	<b>69,964</b>

## 8. NET FINANCE INCOME

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>	<b>2010</b>
<b>Interest income from financial assets</b>			
On financial assets measured at amortised cost	2,274	3,309	2,590
Other financial assets	79	84	261
	<b>2,353</b>	<b>3,393</b>	<b>2,851</b>
<b>Interest expense from financial liabilities</b>			
On financial liabilities not at fair value through profit or loss	-29	-546	-141
On financial liabilities at fair value through profit or loss		-760	
	<b>-29</b>	<b>-1,307</b>	<b>-141</b>
<b>Net finance income</b>	<b>2,324</b>	<b>2,087</b>	<b>2,710</b>

Interest income relates to interest on cash and cash equivalents and held to maturity investments.

## 9. INCOME TAX EXPENSE/BENEFIT

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

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>	<b>2010</b>
<b>Current tax expense (+)/current tax income (-)</b>			
for current year	-4,508	40,686	90,294
adjustment for prior years	-204	552	483
<b>Total current expense/income</b>	<b>-4,712</b>	<b>41,238</b>	<b>90,777</b>
<b>Deferred tax expense (+)/deferred tax income (-)</b>			
from temporary differences	22,868	-5,802	-4,980
Income/expense from changes in local tax rate	-56	-5	26
from reversals and write-downs	-2,607		-99
<b>Total deferred tax expense/income</b>	<b>20,205</b>	<b>-5,807</b>	<b>-5,053</b>
<b>Taxes on income/loss</b>	<b>15,493</b>	<b>35,431</b>	<b>85,724</b>

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

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>	<b>2010</b>
<b>Income before income taxes</b>			
Germany	-101,617	56,554	225,802
Outside Germany	-28,326	58,413	52,418
<b>Total</b>	<b>-129,943</b>	<b>114,967</b>	<b>278,220</b>
<b>Income tax expense</b>			
Germany	21,143	18,867	62,798
Outside Germany	-5,650	16,564	22,926
<b>Total</b>	<b>15,493</b>	<b>35,431</b>	<b>85,724</b>

The Company's effective tax rate is different from the German statutory tax rate of 30.54% (2011: 30.21%; 2010: 30.21%) 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:

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>	<b>2010</b>
Net result before taxes	-129,943	114,967	278,220
Income tax expense (German tax rate)	-39,685	34,732	84,050
Effect from differences to foreign tax rates	1,250	-1,574	-1,074
Non-deductible expenses	1,343	2,236	2,491
Non-consideration of tax claims from loss carryforwards	55,062		
Reversal of Allowance / write-off against deferred tax assets	-2,607	587	-133
Effect from changes in local tax rate	-56	-5	26
Effect of the use of loss carryforwards	-1,482	-1,369	
Effect of permanent differences	152	-71	-113
Other	1,516	895	477
<b>Taxes on income/loss</b>	<b>15,493</b>	<b>35,431</b>	<b>85,724</b>
<b>Effective tax rate</b>	<b>-11.9%</b>	<b>30.8%</b>	<b>30.8%</b>

#### 10. CURRENT TAX RECEIVABLE AND PAYABLE

As of December 31, 2012 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 7,127 (2011: kEUR 8,150) and

kEUR 770 (2011: kEUR 6,404) respectively.

## 11. PROPERTY, PLANT AND EQUIPMENT

<i>in EUR thousands</i>	<b>Land and buildings</b>	<b>Technical equipment and machinery</b>	<b>Other plant, factory and office equipment</b>	<b>Assets under construction</b>	<b>Total</b>
<b>Cost</b>					
Balance at January 1, 2011	39,301	46,512	14,348	29,486	<b>129,647</b>
Acquisitions	1,787	5,239	3,185	16,973	<b>27,184</b>
Disposals	3	2,327	244	7	<b>2,581</b>
Transfers	102	1,330	20	-1,509	<b>-57</b>
Effect of movements in exchange rates	76	504	120	12	<b>712</b>
<b>Balance at December 31, 2011</b>	<b>41,263</b>	<b>51,258</b>	<b>17,429</b>	<b>44,955</b>	<b>154,905</b>
Balance at January 1, 2012	41,263	51,258	17,429	44,955	<b>154,905</b>
Acquisitions	2,252	7,479	1,156	4,881	<b>15,768</b>
Disposals	119	6,182	44	2,639	<b>8,984</b>
Transfers	21,403	18,584	1,838	-41,825	<b>0</b>
Effect of movements in exchange rates	40	-202	-20	3	<b>-179</b>
<b>Balance at December 31, 2012</b>	<b>64,839</b>	<b>70,937</b>	<b>20,359</b>	<b>5,375</b>	<b>161,510</b>
<b>Depreciation and impairment losses</b>					
Balance at January 1, 2011	9,659	34,045	8,033	0	<b>51,737</b>
Depreciation charge for the year	1,997	5,023	1,939		<b>8,959</b>
Disposals		2,304	165		<b>2,469</b>
Transfers					<b>0</b>
Effect of movements in exchange rates	38	399	65		<b>502</b>
<b>Balance at December 31, 2011</b>	<b>11,694</b>	<b>37,163</b>	<b>9,872</b>	<b>0</b>	<b>58,729</b>
Balance at January 1, 2012	11,694	37,163	9,872	0	<b>58,729</b>
Depreciation charge for the year	2,239	6,436	2,489		<b>11,164</b>
Impairment		253		2,503	<b>2,756</b>
Disposals	117	5,848	24	2,503	<b>8,492</b>
Transfers	-50	48	2		<b>0</b>
Effect of movements in exchange rates	20	-207	-12		<b>-199</b>
<b>Balance at December 31, 2012</b>	<b>13,786</b>	<b>37,845</b>	<b>12,327</b>	<b>0</b>	<b>63,958</b>
<b>Carrying amounts</b>					
At January 1, 2011	29,642	12,467	6,315	29,486	<b>77,910</b>
At December 31, 2011	29,569	14,095	7,557	44,955	<b>96,176</b>
At January 1, 2012	29,569	14,095	7,557	44,955	<b>96,176</b>
At December 31, 2012	51,053	33,092	8,032	5,375	<b>97,552</b>

### Depreciation

Depreciation expense amounted to kEUR 13,920 for 2012 and was kEUR 8,959 and kEUR 8,732 for 2011 and 2010 respectively.

### Impairments

In 2012 impairment charges of kEUR 2,756 were made in respect of specific test equipment for discontinued products. They are reported within the line item research and development costs in the Income Statement. During 2011 and 2010 no impairment charges were necessary.

### Assets under construction

Assets under construction relates mainly to the research and development center in Germany and to self-built systems for development laboratories.

## 12. INTANGIBLE ASSETS

<i>in EUR thousands</i>	<b>Goodwill</b>	<b>Other intangible assets</b>	<b>Total</b>
<b>Cost</b>			
Balance at January 1, 2011	79,118	34,171	113,289
Acquisitions	234	2,744	2,978
Disposals		14	14
Transfers		57	57
Effect of movements in exchange rates	2,109	590	2,699
<b>Balance at December 31, 2011</b>	<b>81,461</b>	<b>37,548</b>	<b>119,009</b>
Balance at January 1, 2012	81,461	37,548	119,009
Acquisitions		715	715
Disposals			0
Transfers			0
Effect of movements in exchange rates	368	-295	73
<b>Balance at December 31, 2012</b>	<b>81,829</b>	<b>37,968</b>	<b>119,797</b>
<b>Amortization and impairment losses</b>			
Balance at January 1, 2011	16,917	27,194	44,111
Amortization charge for the year		3,540	3,526
Disposals		14	14
Effect of movements in exchange rates	466	623	1,089
<b>Balance at December 31, 2011</b>	<b>17,383</b>	<b>31,343</b>	<b>48,726</b>
Balance at January 1, 2012	17,383	31,343	48,726
Amortization charge for the year		2,720	2,720
Disposals			0
Effect of movements in exchange rates	100	-313	-213
<b>Balance at December 31, 2012</b>	<b>17,483</b>	<b>33,750</b>	<b>51,233</b>
<b>Carrying amounts</b>			
At January 1, 2011	62,201	6,977	69,178
At December 31, 2011	64,078	6,205	70,283
At January 1, 2012	64,078	6,205	70,283
At December 31, 2012	64,346	4,218	68,564

### Amortization and impairment expenses for other intangible assets

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

<i>in EUR thousands</i>	<b>2012</b>		<b>2011</b>		<b>2010</b>	
	Amortisation	Impairment	Amortisation	Impairment	Amortisation	Impairment
Cost of sales	202	0	1,000	0	1,296	0
Selling expenses	5	0	255	0	1,301	0
General administration expenses	1,915	0	1,670	0	1,119	0
Research and development costs	598	0	615	0	653	0

	2,720	0	3,540	0	4,369	0
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In 2012, 2011 and 2010, 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:

<i>in EUR thousands</i>	
2013	1,514
2014	1,066
2015	569
2016	403
2017	153

The actual amortization can differ from the expected amortization.

### Impairment of goodwill

At the end of 2012 the Group assessed the recoverable amount of goodwill and determined that no impairment loss had to be recognized (2011: kEUR 0; 2010 kEUR 0).

The carrying value of goodwill was kEUR 64,346 (2011 kEUR 64,078; 2010 kEUR 62,201).

The addition in 2011 of kEUR 234 is the final contractual payment to the former owners of Nanoinstruments Ltd and was paid in 2012.

As at the end of 2012 the cash generating unit, to which the goodwill has been allocated, is the AIXTRON Group operational segment.

The recoverable amount of the cash-generating unit is determined through a fair value less cost to sell calculation. IFRS 13, which is mandatory from January 1, 2013, and which AIXTRON has adopted during 2012 defines fair value and sets out a framework for measuring fair value. 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 capitalisation 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.

Market capitalisation was not available at December 31, 2012, but as at December 28, 2012 the market capitalisation of Aixtron was Euro 896.0 million, based on a share price of Eur 8.879 and issued shares (excluding Treasury Shares) of 100,896,098.

In an orderly selling process costs are incurred. Aixtron has used 1.5% to account for the costs to sell. A control premium of 20% has been applied to adjust the market capitalization to the fair value. Market capitalisation was also adjusted for net cash 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.

<i>Euro millions</i>	Impairment Test	Sensitivity Analysis
Market capitalisation as of December 28, 2012	896.0	477.3
Costs to sell in percentage	1.50%	1.50%
Costs to sell	-13.4	-7.2
Market capitalisation less cost to sell	882.6	470.1
Control premium in percentage	20.00%	0.00%
Control premium	179.2	0.0
Market capitalisation and control premium less cost to sell	1061.8	470.1
Net cash	-209.5	-209.5



Tax assets	-11,9	-11,9
Fair value less costs to sell of CGU	840,4	248,7
Carrying amount of the CGU	248,7	248,7
Surplus of fair value less cost to sell over carrying amount	591,7	0,0
Surplus of fair value less cost to sell over carrying amount as a percentage	238%	0%

The fair value less costs to sell, which is the recoverable amount, exceeds the carrying amount of the CGU by 238%.

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 capitalisation of AIXTRON fall by 47% to Euro 477.3 million.

At the end of 2011, the recoverable amount of the cash generating unit was determined through a fair value less cost to sell calculation which used cash flow projections based on financial budgets and forecasts approved by the Executive Board covering the period up to 2013.

The key assumptions include

- A post tax WACC of 11.94% which is derived as at December 2011 using the capital asset pricing model.
- A risk free interest rate of 2.75% based on German Government bond yields.
- A market risk premium of 5%
- An additional risk premium of 1.25% to reflect the current CAPITAL MARKET situation of historically low interest rates and high uncertainty.
- An unlevered beta of 1.37.
- A country risk premium of 1.09%
- A terminal growth rate of 0% has been assumed for the purposes of the calculation of the recoverable amount.
- An exchange rate of USD 1.40 to EUR 1.
- A margin, before interest and tax, of 15%
- Projections of net working capital based on expected working capital ratios. These ratios include; inventory turnover 2.2; receivables 46 DSO and payables 34 DPO.

The directors believe that any reasonably possible change in the key assumptions on which fair value less costs to sell is based would not cause the aggregate carrying amount to exceed the aggregate fair value less costs to sell of the cash-generating unit.

### 13. OTHER NON-CURRENT ASSETS

Other non-current assets totalling kEUR 677 (2011: kEUR 720) include mainly rent DEPOSITS for buildings.

## 14. DEFERRED TAX ASSETS AND LIABILITIES

## Recognized deferred tax assets and liabilities

**Deferred tax assets and liabilities are attributable to the following items**

<i>in EUR thousands</i>	Assets		Liabilities		Net	
	2012	2011	2012	2011	2012	2011
Property, plant and equipment	53	19		-9	53	10
Trade receivables	0	7,160		0	0	7,160
Inventories	1,690	13,629		0	1,690	13,629
Employee benefits	191	43		16	191	59
Currency translation	12			0	12	0
Provisions and other liabilities	-638	-2,955		0	-638	-2,955
Customer advances		1,578		0	0	1,578
Intangible assets		5,576		0	0	5,576
Other	-16	42	-123	-147	-139	-105
Tax losses	4,096	1,688		0	4,096	1,688
Derivative financial instruments		1,567		0	0	1,567
Deferred tax assets (+) abilities (-)	5,388	28,347	-123	-140	5,265	28,207

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 realisation 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 151 (2011: kEUR 142). Forecast transactions are expected to give rise to taxable profits in 2013 where the deferred tax assets have been recognized.

Deferred taxes for tax losses in the amount of kEUR 90,897 (2011: kEUR 16,141) and on deductible temporary differences in the amount of kEUR 20,984 (2011: kEUR 886) were not recognised. Tax losses in the amount of kEUR 53,302 can be used indefinitely (2011: kEUR 0), kEUR 7,302 expire by 2017 (2011: kEUR 1,341, by 2016) and kEUR 30,293 expire after 2017 (2011: kEUR 14,800 after 2016).

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

	Balance at January 1, 2012	Recognized in income statement	Directly recognized in Other Comprehensive Income	Balance at December 31, 2012
<i>in EUR thousands</i>				
Property, plant and equipment	10	43	0	53
Trade receivables	7,160	-7,160	0	0
Inventories	13,629	-11,932	-7	1,690
Employee benefits	59	138	-6	191
Currency translation	0	-118	130	12
Provisions and other liabilities	-2,955	2,325	-8	-638
Customer advances	1,578	-1,578	0	0
Intangible assets	5,576	-5,576	0	0
Other	-105	-26	-8	-139
Tax losses	1,688	2,458	-50	4,096
Derivative financial instruments	1,567	1,221	-2,788	0
	<b>28,207</b>	<b>-20,205</b>	<b>-2,737</b>	<b>5,265</b>

	Balance at January 1, 2011	Recognized in income statement	Directly recognized in Other Comprehensive Income	Balance at December 31, 2011
<i>in EUR thousands</i>				
Property, plant and equipment	-95	105	0	10
Trade receivables	7,086	74	0	7,160
Inventories	6,962	6,663	4	13,629
Employee benefits	43	11	4	58
Deferred revenues	14	-14		0
Currency adjustment	0	75	-75	0
Provisions and other liabilities	-2,033	-929	7	-2,955
Customer advances	0	1,578	0	1,578
Intangible assets	5,576	0	0	5,576
Other	156	-267	7	-104
Derivative financial instruments	-695	-673	2,935	1,567
Tax losses carried forward	2,455	-816	49	1,688
	<b>19,469</b>	<b>5,807</b>	<b>2,931</b>	<b>28,207</b>

## 15. LONG TERM RECEIVABLES FROM CURRENT TAX

Long term receivables from current tax consist of a receivable from corporate tax which will be refunded over a period of five years. The amount included in long term receivables is for the amount receivable after more than one year from the balance sheet date.

## 16. INVENTORIES

<i>in EUR thousands</i>	2012	2011
Raw materials and supplies	49.272	80.654
Work in process	64.984	94.468
Finished goods and services completed	1.790	2.277
Inventories at customers' locations	9.940	7.154
	<b>125.986</b>	<b>184.553</b>

<i>in EUR thousands</i>	2012	2011
Write-down of inventories during the year	40.947	41.602
Inventories measured at net realisable value	8.135	0
Inventories recognised as an expense during the period	113.083	255.357
Reversals of write-downs recognised during the year	0	0
Carrying amount of inventories pledged as security for liabilities	0	0

## 17. TRADE RECEIVABLES AND OTHER CURRENT ASSETS

<i>in EUR thousands</i>	2012	2011
Trade receivables	39,110	79,019
Allowances for doubtful accounts	-1,819	-389
<b>Trade receivables - net</b>	<b>37,291</b>	<b>78,630</b>
Prepaid expenses	955	796

Reimbursement of research and development costs	1,553	251
Advance payments to suppliers	897	5,016
VAT recoverable	2,572	3,468
Other assets	1,683	2,598
Derivatives that are designated and effective as hedging instruments		
carried at fair value	0	2,765
<b>Total other current assets</b>	<b>7,660</b>	<b>14,894</b>
	<b>44,951</b>	<b>93,524</b>

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

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>
Allowance at January 1	389	382
Translation adjustments	-7	8
Impairment losses recognized	1,593	69
Used	-29	-22
Impairment losses reversed	-127	-48
<b>Allowance at December 31</b>	<b>1,819</b>	<b>389</b>
<b>Ageing of past due but not impaired receivables</b>		
<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>
1-90 days past due	1,971	3,041
More than 90 days past due	1,246	1,561

Due to the worldwide spread of risks, there is a diversification of the credit risk for trade receivables. Generally, the Company demands no securities for financial assets. In accordance with usual business practice for capital equipment however, the Company 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 one customer accounted for 26% of the company's net trade receivables, no other customer accounted for more than 10% of trade receivables. In 2011 two customers accounted for 26% and 23% respectively of the company's net trade receivables, no other single customer accounted for more than 10% of trade receivables. In determining concentrations of credit risk the company defines counterparties as having similar characteristics if they are connected entities.

Included in the Company's trade receivable balance are debtors with a carrying amount of kEUR 3,217 (2011: kEUR 4,602) which are past due at the reporting date for which the Company has not provided. As there has not been a significant change in credit quality and, although the company has no collateral, the amounts are still considered recoverable.

In determining the financial assets which may be individually impaired the Company 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 109,756 (2011: kEUR 122,323) are fixed **DEPOSITS** with banks with a maturity of more than three months at inception of the contracts.

An analysis of the maturities at December 31, 2012 and 2011 is as follows:

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>
Maturity up to 180 days	94,756	112,323
Maturity 181 days to 365 days	15,000	10,000

	109,756	122,323
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## 19. CASH AND CASH EQUIVALENTS

<i>in EUR thousands</i>	2012	2011
Cash-in-hand	9	17
Bank balances	99,725	127,875
Cash and Cash equivalents	<b>99,734</b>	<b>172,892</b>

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 (2011: kEUR 0) at December 31, 2012.

## 20. SHAREHOLDERS' EQUITY

## FULLY PAID CAPITAL

	2012	2011
January 1	101,789,527	101,179,866
Exercise of employee stock options	185,496	609,661
<b>Issued and fully paid capital at December 31, including Treasury Shares</b>	<b>101,975,023</b>	<b>101,789,527</b>
Less: Treasury shares	-1,078,925	-1,078,925
<b>Issued and fully paid capital at December 31, under IFRS</b>	<b>100,896,098</b>	<b>100,710,602</b>

The share capital of the company consists of no-par value shares and was fully paid-up during 2012 and 2011. Each share represents a portion of the share capital in the amount of EUR 1.00.

**Authorized share capital**

Authorized share capital, including stated capital, amounted to EUR 203,579,052 (2011: 184,107,297)

**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.

The Company 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 Company considers its capital resources to be adequate.

**Income and expenses recognised in other comprehensive income**

<i>in EUR thousands</i>	Currency translation	Derivative financial instruments	Total
Balance at December 31, 2009	-12,449	-1,115	-13,564
Change in currency translation	1,454	0	1,454
Change in unrealized gains/losses before taxes	0	1,224	1,224

Deferred taxes	0	-449	-449
Balance at December 31, 2010	-10,995	-340	-11,335
Change in currency translation	6,930		6,930
Change in unrealized gains/losses before taxes		-9,032	-9,032
Deferred taxes		2,934	2,934
Balance at December 31, 2011	-4,065	-6,438	-10,503
Change in currency translation	1,512		1,512
Change in unrealized gains/losses before taxes		9,226	9,226
Deferred taxes		-2,788	-2,788
<b>Balance at December 31, 2012</b>	<b>-2,553</b>	<b>0</b>	<b>-2,553</b>

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.

The item "derivative financial instruments" comprises the gain or loss on foreign currency hedge contracts deferred in other comprehensive income.

## 21. EARNINGS/LOSS PER SHARE

### Basic earnings/loss per share

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

### Diluted earnings/loss 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.

	2012	2011	2010
<b>Earnings/loss per share</b>			
Net profit/loss attributable to the shareholders of AIXTRON SE in kEUR	-145,436	79,536	192,496
Weighted average number of common shares and ADS for the purpose of Earnings Per Share	100,805,804	100,530,006	99,871,834
<b>Basic earnings per share (EUR)</b>	<b>-1.44</b>	<b>0.79</b>	<b>1.93</b>
<b>Earnings/loss per share (diluted)</b>			
Net profit/loss attributable to the shareholders of AIXTRON SE in kEUR	-145,436	79,536	192,496
Weighted average number of common shares and ADS for the purpose of Earnings Per Share	100,805,804	100,530,006	99,871,834
Dilutive effect of share options	0	1,304,711	1,874,632
Weighted average number of common shares and ADS for the purpose of Earnings Per Share (diluted)	100,805,804	101,834,717	101,746,466
<b>Diluted earnings per share (EUR)</b>	<b>-1.44</b>	<b>0.78</b>	<b>1.89</b>

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	2012	2011	2010
Share options	3,366,396	2,305,590	2,323,928

## 22. EMPLOYEE BENEFITS

### Defined contribution plan

The Company grants retirement benefits to qualified employees through various defined contribution pension plans. The expenses incurred for defined contribution plans mainly arise from two pension plans in subsidiaries. The contributions made do not exceed 10% of qualified employees' base salaries. In 2012 the expense recognized for defined contribution plans amounted to kEUR 1,712 (2011: kEUR 1,338, 2010: kEUR 1,152).

In addition to the Company's retirement benefit plans, the company is required to make contributions to state retirement benefit schemes in most of the countries in which it operates. The company 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.

### Defined benefit plan

The Company's net obligation in respect of defined benefit pension plans reflects commitments to two former members of the Executive Board of AIXTRON SE. These are final salary plans.

In the three years ending 2012 no payments were made under these plans. The value of the obligations from pension plans is determined annually at December 31. During 2010 these obligations were contracted out to an insurance company. Following the transfer of the pension obligation to the insurance company, the guaranteed increase in pensions is 1% only. The company does not expect to have any further obligation under these schemes.

### Movements in the present value of defined benefit obligations

<i>in EUR thousands</i>	2012	2011	2010
Present value of defined benefit obligations at January 1	1,024	1,048	1,064
Interest expense	54	51	
Actuarial gains and losses	388	-58	
Settlement		-17	-16
Present value of defined benefit obligations at December 31	1,466	1,024	1,048

### The amount included in the consolidated statement of financial position arising from defined benefit obligations is

<i>in EUR thousands</i>	2012	2011	2010	2009	2008
Present value of defined benefit obligations	1,466	1,024	1,048	1,064	845
Fair value of scheme assets - funded	-1,466	-1,024	-1,031	0	0
Defined benefit liability - unfunded	0	0	17	1,064	845

### Expense recognized in the consolidated income statement

<i>in EUR thousands</i>	2012	2011	2010
Interest expense	0	0	54
Actuarial gains and losses	0	-17	812
	0	-17	866

### Development of plan assets

<i>in EUR thousands</i>	2012	2011	2010
at January 1	1,024	1,031	0
Contributions by the sponsoring companies	0	0	1,913
Return from plan assets	54	51	0

Actuarial gains and losses	388	-58	-882
	1,466	1,024	1,031

In the income statement, the income of kEUR nil (income 2011 kEUR 17, expenses 2010 kEUR 866) is recognized in general administration expense.

The following table shows the principal actuarial assumptions.

	2012	2011
Biometrical calculation assumptions	Heubeck tables 2005G	Heubeck tables 2005G
Interest rate at December 31	3.30%	5.20%
Expected salary increase	0.00%	0.00%
Expected pension increase	1.00%	1.00%
Expected rate of return on plan assets	3.30%	5.20%

### 23. SHARE-BASED PAYMENT

The Company has different fixed option plans which reserve shares of common stock and AIXTRON American Depository Shares (ADS) for issuance to members of the Executive Board, management and employees of the Company. Each AIXTRON ADS represents the beneficial ownership in one AIXTRON common share. The following is a description of these plans:

#### **AIXTRON stock option plan 1999**

In May 1999, options were authorized to purchase 3,000,000 shares of common stock (after giving effect to capital increases, stock splits, and the Euro conversion). The stock options can be exercised when 15 years have elapsed since their issue. Under the terms of the 1999 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. Under this plan 1,092,734 options for the purchase of 1,755,762 common shares were outstanding as of December 31, 2012.

#### **AIXTRON stock option plan 2002**

In May 2002, options were authorized to purchase 3,511,495 shares of common stock. The options are exercisable in equal instalments of 25% per year after the second anniversary of the date of grant, subject to certain conditions. Options expire ten years from date of grant. Under the terms of the 2002 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 20%. No grants were issued with a strike price less than fair market value. A total of 367,684 options to purchase the same number of common stock were outstanding under this plan as of December 31, 2012.

#### **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%. A total of 2,150,680 options to purchase the same number of common stock were outstanding under this plan as of December 31, 2012.

#### **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%. As of December 31, 2012 no options had been granted under this plan.

#### **Genus stock option plan 2000**

With the acquisition of Genus, Inc. the company adopted the Genus Incentive Stock Option Plan 2000. Under this plan at the date of acquisition options were authorized to purchase the equivalent of 2,013,487 AIXTRON ADS. Options granted before October 3, 2003 vest over a three-year-period and



expire five years from the date of grant. Options granted after October 3, 2003 vest over a four-year-period and expire ten years from the date of grant.

A total of 6,610 options to purchase AIXTRON ADS were outstanding under this plan as of December 31, 2012. Upon exercise of options new shares are issued from the trust (see note 20).

### Summary of Stock Option Transactions

#### AIXTRON share options

	Number of shares	Average exercise price (EUR)	Number of shares	Average exercise price (EUR)
	2012		2011	
Balance at January 1	4,519,641	21.06	5,145,752	19.17
Granted during the year	31,000	15.75	14,000	12.55
Exercised during the year	185,496	4.79	609,661	5.21
Forfeited during the year	91,019	23.29	39,450	16.10
Outstanding at December 31	4,274,126	21.68	4,519,641	21.06
Exercisable at December 31	937,426	23.24	1,468,398	25.78

#### Genus share options

	Number of shares	Average exercise price (EUR)	Number of shares	Average exercise price (EUR)
	2012		2011	
Balance at January 1	6,610	7.44	6,610	7.44
Exercised during the year				
Expired during the year				
Outstanding at December 31	6,610	7.44	6,610	7.44
Exercisable at December 31	6,610	7.44	6,610	7.44

#### AIXTRON Stock Options as of December 31, 2012

Exercise price per share (EUR)	Underlying shares represented by outstanding options	Shares represented by exercisable options	Average option life (in years)
18.70	406,824	406,824	1.5
67.39	386,808	386,808	2.5
26.93	382,900	0	3.5
7.48	579,230	0	4.5
3.10	30,150	30,150	0.5
6.17	75,884	75,884	1.5
3.83	261,650	261,650	3.5
10.09	309,300	309,300	5.0
4.17	327,480	245,610	6.0
24.60	723,050	361,525	7.0
26.60	745,850	0	8.0
12.55	14,000	0	9.0
15.75	31,000	0	10.0
	4,274,126	2,077,751	

#### Genus Stock Options as of December 31, 2012

Average exercise price (USD)	Outstanding	Exercisable	Average option life (in Years)
3.55	1,000	1,000	2.9
7.20	4,590	4,590	2.3
12.35	1,020	1,020	1.9
	6,610	6,610	

### 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 binomial lattice model. In accordance with IFRS 2 the measurement includes only options which were granted after November 7, 2002.

In 2012, the personnel expenses from share-based payments, all of which were equity settled share based payments, were kEUR 3,453 (2011: kEUR 5,064; 2010: kEUR 3,645).

### AIXTRON share options granted

	in 2012	in 2011	in 2010
Fair value on grant date	4.66 €	3.22 €	8.87 €
Price per share	12.74 €	9.95 €	23.54 €
Exercise price	15.75 €	12.55 €	26.60 €
Expected volatility	55.96 %	59.03 %	58.02 %
Option life	10.0 years	10.0 years	10.0 years
Expected dividend payments	0.33 €	0.38 €	0.55 €
Risk-free interest rate	1.47%	2.02%	2.62%

The expected volatility is based on historical volatility.

## 24. PROVISIONS

### Development and breakdown of provisions

<i>in EUR thousands</i>	Jan 1, 2012	Exchange rate differences	Usage	Reversal	Addition	Dec 31, 2012	Current	Non-current
<b>Personnel expenses</b>	14,407	-56	11,466	2,015	7,374	<b>8,244</b>	3,289	0
<b>Warranties</b>	3,579	-23	3,135	96	5,927	<b>6,252</b>	5,262	990
<b>Onerous contracts</b>	416		19	399	4,671	<b>4,669</b>	4,669	0
<b>Commissions</b>	6,538	-3	5,543		1,178	<b>2,170</b>	2,170	0
<b>Other</b>	11,618	-92	9,047	148	10,699	<b>13,030</b>	7,859	216
<b>Total</b>	<b>36,558</b>	<b>-174</b>	<b>29,210</b>	<b>2,658</b>	<b>24,894</b>	<b>29,410</b>	<b>28,204</b>	<b>1,206</b>

<i>in EUR thousands</i>	Jan 1, 2011	Exchange rate differences	Usage	Reversal	Addition	Dec 31, 2011	Current	Non-current
<b>Personnel expenses</b>	14,709	194	12,448	1,272	13,224	14,407	14,407	0
<b>Warranties</b>	7,709	28	4,295	1,021	1,158	3,579	3,579	0
<b>Onerous contracts</b>	752	8	269	75		416	416	0
<b>Commissions</b>	9,608	-7	6,008	73	3,018	6,538	6,538	0
<b>Other</b>	10,758	39	7,835	270	8,926	11,618	11,618	0
<b>Total</b>	<b>43,536</b>	<b>262</b>	<b>30,855</b>	<b>2,711</b>	<b>26,326</b>	<b>36,558</b>	<b>36,558</b>	<b>0</b>

### Personnel expenses

These include mainly provisions for holiday pay and bonuses, which are financial liabilities.

### Provisions for onerous contracts

These include provisions for contracts connected with obligations, including rent payable and contract risks.

### Commissions

Commissions are recorded as financial liabilities.

### Other provisions

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

For provisions existing at both December 31, 2012 and December 31, 2011, 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:

<i>in EUR thousands</i>	<b>2012</b>	<b>2011</b>
<b>Trade payables</b>	<b>9,683</b>	<b>20,527</b>
Liabilities from grants	1,740	1,466
Payroll taxes and social security contributions	981	754
VAT and similar taxes	739	85
Financial instruments carried at fair value through the profit or loss (FVTPL)		
Foreign currency options		17,354
Other liabilities	323	417
	<b>3,783</b>	<b>20,076</b>
	<b>13,466</b>	<b>40,603</b>

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. The maturities of currency contracts are shown in Note 26.

## 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 Company'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.

Derivative financial instruments may be used to hedge exposure to fluctuations in foreign exchange rates.

### 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, 2012 the group had no borrowings (2011 nil). Financial liabilities, all due within one year, of kEUR 13,466 (2011 kEUR 40,603) consisting of trade payables and other liabilities and are shown in Note 25, together with an analysis of their maturity.

As at December 31, 2011 the group had kEUR 99,734 cash and cash equivalents (2011 kEUR 172,892) and a further kEUR 109,756 of fixed **DEPOSITS** with banks (2011 kEUR 122,323).

### Credit risks

Financial assets generally exposed to a credit risk are trade receivables (see note 17) 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 receivables measured at fair value, the maximum amount of the exposure to credit risk is the amount of receivables 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 Company'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 company only receives a minor amount of interest income. The Company does not use derivative financial instruments to manage its exposure to interest rate risk. Cash deposits are made with the company'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 Company's exposure to market risk or the manner in which it manages and measures the risk.

### Foreign currency risk

The Company enters 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:

<i>in EUR thousands</i>	Liabilities		Assets	
	2012	2011	2012	2011
US Dollars	(43,342)	(57,687)	72,064	119,581
GB Pounds	(2,168)	(7,242)	17,124	41,748

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

### Foreign currency sensitivity analysis

The Company 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	
	2012	2011
kEUR		
Profit or loss	1,266	5,389
Other comprehensive income	-	9,189

Decrease in value of Euro by 10%	USD Currency Effect	
	2012	2011
kEUR		
Profit or loss	1,266	3,716
Other comprehensive income	-	17,869

The effect on profit or loss of changes in currency rates may differ between increases and decreases in rates because of the asymmetrical effect of changes in valuation of option contracts.

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.

#### Forward foreign exchange contracts

The company enters forward foreign exchange contracts with banks from time to time to cover receipts from highly probable forecast sales denominated in US Dollars.

The following table details the forward foreign currency contracts outstanding as at the reporting date:

	Foreign Currency		Contract Amount		Fair Value			
					Assets		Liabilities	
	2012	2011	2012	2011	2012	2011	2012	2011
	kUSD	kUSD	kEUR	kEUR	kEUR	kEUR	kEUR	kEUR
<b>Cash flow hedges</b>								
Options to Sell Euros buy US Dollars								
Less than 3 months	-	96,000	-	70,996	-	-	-	(3,066)
3 to 12 months	-	201,000	-	148,774	-	-	-	(6,240)
<b>Hedges through the Profit or Loss</b>								
Options to sell US Dollars buy Euros								
Less than 3 months	-	199,000	-	142,143	-	316	-	-
3 to 12 months	-	201,000	-	143,571	-	2,449	-	-
Options to sell Euros buy US Dollars								
Less than 3 months	-	103,000	-	76,223	-	-	-	(936)
3 to 12 months	-	-	-	-	-	-	-	(7,112)

#### Foreign currency cash flow hedges

As of 31 December 2012, the aggregate amount of unrealized gains on forward foreign exchange contracts deferred in the hedging reserve relating to the exposure on anticipated future transactions is kEUR nil (2011: kEUR 6,438).

The unrealized losses of kEUR 6,438 (unrealized losses 31 December 2012: kEUR 340) included in income and expenses recognized in equity as of December 31, 2011 were fully reversed and recognized in the income statement at maturity date of the contracts in the financial year. The losses actually realized in 2012 were kEUR 8,531 (2011: gains kEUR 6,874).

### Foreign currency option contracts

The company has no option contracts as at December 31, 2012.

The company had entered into option contracts in 2011 to hedge the exchange rate risk on US Dollar sales proceeds in 2012. The contracts are classified as at fair value through the profit and loss account.

Unrealized losses of kEUR nil (2011 : kEUR 5,461) on forward exchange contracts are recognised in Other Operating Expense in the Income Statement.

At December 31, 2011 AIXTRON held a series of US Dollar/ Euro put and call options with equal and opposite purchase and sales volumes and maturities. In view of the expectation that the intrinsic value of these options will be offsetting, and to the extent that they represent hedges of highly probable future cash flows, they have been designated as cash flow hedges and accounted for as such in accordance with IAS 39.

### Fair values

Cash and cash equivalents, Loans and receivables and Held to maturity investments are stated at amortised cost. At FVTPL and Hedging derivatives are classed as at fair value through profit or loss and are designated as such upon initial recognition. At FVTPL includes accrued receivables arising as the difference between the fair value of revenue (note 3) and the invoiced amounts. The fair value is level 2 in the fair value hierarchy.

The fair values and the carrying amounts of the financial instruments shown in the balance sheet are shown in the following table. Financial assets are classified into categories.

### FINANCIAL ASSETS 2012

<i>in EUR thousands</i>	Cash and cash equivalents at amortized cost	Loans and receivables at amortized cost	Held to-maturity investments at amortized cost	At FVTPL at fair value	Hedging Derivatives at fair value	Total Carrying amount and fair value
Cash and cash equivalents	99,734	0	0	0	0	99,734
Fair value of derivative financial instruments	0	0	0	0	0	0
Other financial assets	0	0	109,756	0	0	109,756
Other non-current assets	0	677	0	0	0	677
Trade receivables	0	29,683	0	7,608	0	37,291
<b>Total</b>	<b>99,734</b>	<b>30,360</b>	<b>109,756</b>	<b>0</b>	<b>0</b>	<b>247,458</b>
<b>At amortized cost</b>	<b>99,734</b>	<b>30,360</b>	<b>109,756</b>			<b>247,458</b>
<b>At fair value</b>				<b>7,608</b>	<b>0</b>	<b>7,608</b>

### FINANCIAL LIABILITIES 2012

<i>in EUR thousands</i>	Cash and cash equivalents at amortized cost	Loans and receivables at amortized cost	Other payables at amortized cost	At FVTPL at fair value	Hedging Derivatives at fair value	Total Carrying amount and fair value
Fair value of derivative financial instruments	0	0	0	0	0	0
Trade payables	0	0	9,683	0	0	9,683
Advance payments from customers (not in the scope of IFRS 7)	0	0	45,969	0	0	45,969
<b>Total</b>	<b>0</b>	<b>0</b>	<b>55,652</b>	<b>0</b>	<b>0</b>	<b>55,652</b>
<b>At amortized cost</b>	<b>0</b>	<b>0</b>	<b>55,652</b>			<b>55,652</b>
<b>At fair value</b>				<b>0</b>	<b>0</b>	<b>0</b>

**FINANCIAL ASSETS 2011**

<i>in EUR thousands</i>	Cash and cash equivalents at amortized cost	Loans and receivables at amortized cost	Held to-maturity investments at amortized cost	At FVTPL at fair value	Hedging Derivatives at fair value	Total Carrying amount and fair value
Cash and cash equivalents	172,892	0	0	0	0	172,892
Fair value of derivative financial instruments	0	0	0	2,765	0	2,765
Other financial assets	0	0	122,323	0	0	122,323
Other non-current assets	0	720	0	0	0	720
Trade receivables	0	78,630	0	0	0	78,630
<b>Total</b>	<b>172,892</b>	<b>79,350</b>	<b>122,323</b>	<b>2,765</b>	<b>0</b>	<b>377,330</b>
<b>At amortized cost</b>	<b>172,892</b>	<b>79,350</b>	<b>122,323</b>			<b>377,330</b>
<b>At fair value</b>				<b>2,765</b>	<b>0</b>	<b>2,765</b>

**FINANCIAL LIABILITIES 2011**

<i>in EUR thousands</i>	Cash and cash equivalents at amortized cost	Loans and receivables at amortized cost	Other payables at amortized cost	At FVTPL at fair value	Hedging Derivatives at fair value	Total Carrying amount and fair value
Fair value of derivative financial instruments	0	0	0	8,047	9,307	17,354
Trade payables	0	0	20,527	0	0	20,527
Advance payments from customers (not in the scope of IFRS 7)	0	0	64,900	0	0	64,900
<b>Total</b>	<b>0</b>	<b>0</b>	<b>85,427</b>	<b>8,047</b>	<b>9,307</b>	<b>102,781</b>
<b>At amortized cost</b>	<b>0</b>	<b>0</b>	<b>85,427</b>			<b>85,427</b>
<b>At fair value</b>				<b>8,047</b>	<b>9,307</b>	<b>17,354</b>

**Derivatives**

The 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.

The values are derived from inputs other than quoted prices that are observable for the asset or liability either directly (as prices) or indirectly (derived from prices). This is level 2 in the hierarchy of fair value measurement techniques.

**Trade receivables/payables**

For trade receivables/payables due within less than one year, the fair value is taken to be the nominal value. All other receivables/payables are discounted to determine the fair value.

## 27. OPERATING LEASES

**LEASES AS LESSEE**

Non-cancellable operating lease rentals are payable as follows:

<i>in EUR thousands</i>	
Not later than one year	3,583
Later than one year and not later than five years	6,077
Later than five years	440
	10,100

The Company leases certain office and plant facilities, office furniture and motor vehicles under various operating leases. Under most of the lease commitments for office and plant facilities the Company has options to renew the leasing contracts. The leases typically run for a period between one and fifteen

years. None of the leases include contingent rentals.

The expenses for leasing contracts were kEUR 4393, kEUR 4,490 and kEUR 3,959 for 2012, 2011 and 2010 respectively.

## 28. CAPITAL COMMITMENTS

As of December 31, 2012, the Company had entered into purchase commitments with suppliers in the amount of kEUR 33,860 (2011: kEUR 69,029) for purchases within the next twelve months. Commitments for capital expenditures for fixed assets are kEUR 437 (2011: kEUR 4,164) as of December 31, 2012.

## 29. CONTINGENCIES

The Company 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 analyzes 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 Company's net assets, results of operations and financial position.

The legal proceeding issued in 2008 between International Rectifier Corporation ("I.R."), of El Segundo, California, USA and AIXTRON SE was settled by agreement in January 2011. I.R. withdrew its action and financial claims against Aixtron in exchange for certain disclosures and witness statements provided by AIXTRON. At I.R.'s request the Court dismissed the action against AIXTRON. No further liability exists.

## 30. IDENTITY OF RELATED PARTIES

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

### Executive Board Remuneration

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.

The remuneration level of the Executive Board members of AIXTRON SE is aligned with the commercial and financial situation and future prospects of the Company and the level and structure of Executive Board remuneration at comparable companies as well as 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.

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.

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, chiefly consisting of company car usage and payments for private pension insurance.

The 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", defined as up to 10% of the modified consolidated net income for the year, but not to exceed EUR 6.5 million in total. The modified



consolidated net income for the year is obtained from the Company's Consolidated Financial Statements (IFRS) certified by the auditor, less a consolidated loss carry forward figure and those amounts that are to be allocated to retained earnings in the Annual Financial Statements of AIXTRON by law or in accordance with the Articles of Association. The consolidated loss carry forward is obtained from consolidated net losses from previous years, less consolidated net income from subsequent fiscal years.

In addition, as a variable component acting as a long-term incentive with an element of risk, the members of the Executive Board may receive a share-based payment in the form of options that are granted under AIXTRON's stock option plans. The stock option plans, including the exercise thresholds, are adopted at each 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.

The appropriateness of the above mentioned remuneration components, and the likelihood that they do not encourage Management to take unreasonable risks, are regularly reviewed by the Supervisory Board.

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 pay 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 pay shall be excluded.

If the tenure of any Executive Board member ends prematurely and 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 pay which the Executive Board member would receive in the event of a revocation of the appointment with due regard to the severance cap. If any Executive Board Member terminates the employment relationship after a change of control, such member of the Executive Board will receive a severance pay in an amount equal to the fixed and variable compensation expected to be owed by the Company for the remaining term of the employment contract, however, not exceeding the severance cap, i.e. an amount equal to twice the annual compensation. Any payments beyond this severance pay 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.

The 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.

In accordance with Section 120(4) of the German Stock Corporation Act, the remuneration system was approved by the General Meeting on May 18, 2010.

In its meeting on December 5, 2012, the Supervisory Board decided to renew the contract of Wolfgang Breme, Chief Financial Officer and Executive Board member. The contract, which would have expired on March 31, 2013, has been prolonged until March 31, 2016. In this context, a new compensation scheme for this and future management contracts was decided.

The new compensation scheme envisages that variable bonuses - which will be continued to be provided from an "accrued internal bonus" as defined above - will be paid half through a monetary element and half in shares. That part of the variable bonus payable in shares will be converted into whole numbers of shares of the Company and will be deferred until the third bank working day following the ordinary General Meeting in the third fiscal year after having been granted to the Board members. The number of the shares to be granted for the part of the variable bonus payable in shares will be determined in accordance with the closing price of the share of the Company on the third bank working day following the ordinary General Meeting which is presented with the annual financial statements of the Company and the consolidated financial statements for the fiscal year for which the bonus is granted. The shares will be granted from treasury shares.

As a result of this new compensation scheme, the Board members will not only participate in positive, but also in negative developments of the share price which may occur during the extended waiting period of several years, and the orientation towards a sustainable growth of the Company is strengthened; therefore, the Supervisory Board has decided to incorporate corresponding provisions on compensation into future management contracts (upon conclusion or renewal). The new provisions as

described will apply to the Board member Wolfgang Breme as of the effective date of his new management contract and half of his bonus will therefore be payable in shares as of April 1, 2013.

On February 18, 2013 Mr. Martin Goetzeler was appointed as new Executive Board member of AIXTRON SE; he will take up his office on March 1, 2013. His management contract also contains provisions reflecting the new compensation scheme.

The revised remuneration system will be submitted for approval to the General Meeting on May 23, 2013.

#### Supervisory Board Remuneration

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

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

The Supervisory Board members receive no loans from the Company.

#### Other

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

### Individual Structure of Remuneration

#### Executive Board Remuneration

In fiscal year 2012, the cash remuneration of the Executive Board (including benefits in kind and allowances for pensions) totaled EUR 1,124,274 (2011: EUR 7,623,754; 2010: EUR 7,620,046). During the past fiscal year, the Executive Board was allocated 0 options (2011: 0; 2010: 156,000). The breakdown among the individual members of the Executive Board for the years 2010 to 2012 is presented in the table below.

Executive Board member	Year	Fixed Remuneration <sup>1)</sup>	Variable remuneration	Total cash remuneration	Number of options granted	Value of options at grant date	Total remuneration
		(Euros)	(Euros)	(Euros)		(Euros)	(Euros)
Paul Hyland	2012	437,334	-	437,334	-	-	437,334
	2011	436,814	2,888,890	3,325,704	-	-	3,325,704
	2010	434,191	2,888,890	3,323,081	52,000	461,240	3,784,321
(Until February 28, 2013)							
Wolfgang Breme	2012	309,413	-	309,413	-	-	309,413
	2011	309,413	1,805,555	2,114,968	-	-	2,114,968
	2010	308,968	1,805,555	2,114,523	52,000	461,240	2,575,763
Dr. Bernd Schulte	2012	377,527	-	377,527	-	-	377,527
	2011	377,527	1,805,555	2,183,082	-	-	2,183,082

	2010	376,887	1,805,555	2,182,442	52,000	461,240	2,643,682
Total	2012	1,124,274	-	1,124,274	-	-	1,124,274
	2011	1,123,754	6,500,000	7,623,754	-	-	7,623,754
	2010	1,120,046	6,500,000	7,620,046	156,000	1,383,720	9,003,766

1) Includes benefits in kind and allowances for pensions

As of December 31, 2012, the AIXTRON Executive Board held a total of 914,758 options for the purchase of 923,516 shares of the Company (December 31, 2011: 962,516 shares; December 31, 2010: 962,516 shares). 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	Exercisable	Value of options at grant date	Exercise price	Maturity
		(number of shares)	(number of shares)	(Euros)	(Euros)	
Paul Hyland	Nov 2010	52,000	-	461,240	26.60	Nov 2020
	Nov 2009	52,000	26,000	448,240	24.60	Nov 2019
	Nov 2008	52,000	39,000	92,040	4.17	Nov 2018
	Dec 2007	52,000	52,000	225,680	10.09	Dec 2017
	May 2006	55,000	55,000	84,150	3.83	Nov 2016
	May 2004	35,000	35,000	107,800	6.17	Nov 2014
	May 2003	27,500	27,500	48,950	3.10	Nov 2013
	May 2002	27,500	-	152,625	7.48	May 2017
	May 2001	5,000	-	106,500	26.93	May 2016
	May 2000	5,400	1,350	114,507	67.39	May 2015
Wolfgang Breme	Nov 2010	52,000	-	461,240	26.60	Nov 2020
	Nov 2009	52,000	26,000	448,240	24.60	Nov 2019
	Nov 2008	13,000	-	23,010	4.17	Nov 2018
	Dec 2007	52,000	52,000	225,680	10.09	Dec 2017
	May 2006	55,000	55,000	84,150	3.83	Nov 2016
	Nov 2010	52,000	-	461,240	26.60	Nov 2020
	Nov 2009	52,000	26,000	448,240	24.60	Nov 2019
	Nov 2008	52,000	39,000	92,040	4.17	Nov 2018
	Dec 2007	52,000	52,000	225,680	10.09	Dec 2017
	May 2006	55,000	55,000	84,150	3.83	Nov 2016
Dr. Bernd Schulte	Nov 2010	52,000	-	461,240	26.60	Nov 2020
	Nov 2009	52,000	26,000	448,240	24.60	Nov 2019
	Nov 2008	52,000	39,000	92,040	4.17	Nov 2018
	Dec 2007	52,000	52,000	225,680	10.09	Dec 2017
	May 2006	55,000	55,000	84,150	3.83	Nov 2016
	May 2004	35,000	35,000	107,800	6.17	Nov 2014
	May 2003	-	-	48,950	3.10	Nov 2013
	May 2002	27,500	-	152,625	7.48	May 2017
	May 2001	5,000	-	106,500	26.93	May 2016
	May 2000	2,640	660	55,981	67.39	May 2015

	May 1999	2,976	2,976	35,640	19	May 2014
<b>Total</b>		923,516	579,486			

Under IFRS 2, the "Option value at grant date" is also used as the basis for recognizing options issued after November 7, 2002 under expenses on the Income Statement. For stock options issued prior to November 7, 2002, the fair value was determined using the Black-Scholes model.

In fiscal year 2012, Executive Board members exercised 39,000 options (2011: 0; 2010: 0); 0 options expired (2011: 0; 2010: 0).

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 (a total of EUR 40,000 per person in each of the years; 2012, 2011 and 2010) 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.

### Supervisory Board Remuneration

In fiscal year 2012, the remuneration of the Supervisory Board totaled EUR 302,500 (2011: EUR 1,024,933; 2010: EUR 801,000). For the years 2010 to 2012, Supervisory Board remuneration may be broken down as follows:

Supervisory Board Member	Year	Fixed Remuneration (Euros)	Variable remuneration (Euros)	Attendance fees (Euros)	Total remuneration (Euros)
Kim Schindelhauer <sup>1)2)3)4)</sup> (Chair, Supervisory Board)	2012	75,000	-	18,000	93,000
	2011	75,000	257,333	16,000	348,333
	2010	54,000	216,000	7,500	277,500
Dr. Holger Jürgensen <sup>1)2)4)</sup> (Deputy Chairman, Supervisory Board)	2012	37,500	-	16,000	53,500
	2011	37,500	128,667	16,000	182,167
	2010	27,000	108,000	9,000	144,000
(Until January 30, 2013)					
Prof. Dr. Wolfgang Blättchen <sup>1)</sup> (Chairman, Audit Committee)	2012	25,000	-	24,000	49,000
	2011	25,000	85,778	24,000	134,778
	2010	18,000	72,000	13,500	103,500
Prof. Dr. Petra Denk <sup>2)3)</sup> (Chairwoman, Technology Committee)	2012	25,000	-	26,000	51,000
	2011	15,548	53,347	23,322	92,217
	2010	-	-	-	-
(Since May 19, 2011)					
Karl-Hermann Kuklies	2012	25,000	-	-	25,000
	2011	25,000	85,778	-	110,778
	2010	18,000	72,000	-	90,000
(Until January 30, 2013)					
Prof. Dr. Rüdiger von Rosen <sup>3)</sup>	2012	25,000	-	6,000	31,000
	2011	25,000	85,778	-	110,778
	2010	18,000	72,000	-	90,000
Joachim Simmross <sup>1)</sup>	2012	-	-	-	-
	2011	9,452	32,431	4,000	45,883
	2010	18,000	72,000	6,000	96,000
(Until May 19, 2011)					
<b>Total</b>	<b>2012</b>	<b>212,500</b>	<b>-</b>	<b>90,000</b>	<b>302,500</b>
	<b>2011</b>	<b>212,500</b>	<b>729,112</b>	<b>83,322</b>	<b>1,024,934</b>
	<b>2010</b>	<b>153,000</b>	<b>612,000</b>	<b>36,000</b>	<b>801,000</b>

1) Member of the Audit Committee

2) Member of the Technology Committee

3) Member of the Nomination Committee

4) Former member of the Executive Board of AIXTRON AG

In the years 2010 to 2012, there were no payments made to any Supervisory Board member for advisory services.

### 31. CONSOLIDATED ENTITIES

AIXTRON SE controls the following subsidiaries:

	Country	Share of capital in %	
		2012	2011
AIXTRON Inc	USA	100	100
AIXTRON Ltd.	England & Wales	100	100
AIXTRON Korea Co. Ltd.	South Korea	100	100
AIXTRON Taiwan Co. Ltd.	Taiwan	100	100
AIXTRON AB	Sweden	100	100
AIXTRON KK	Japan	100	100
AIXTRON China Ltd	P. R. China	100	100
Nanoinstruments Ltd	England & Wales	100	100
Genus trust *	USA	n.a.	n.a.

*The shares held in the Genus trust are attributed, as beneficial owner, to AIXTRON, as control exists through the trust relationship with AIXTRON SE*

### 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 Company'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 & Touche are as follows:

<i>in EUR thousands</i>	2012	2011
for audit	728	748
for other confirmation services	36	70
for tax advisory services	226	157
for other services	0	7
	<b>990</b>	<b>982</b>

Included in the total amount of fees are fees for the group auditor Deloitte & Touche GmbH, Wirtschaftsprüfungsgesellschaft, Duesseldorf, in the amount of kEUR 443 for audit (2011: kEUR 462), kEUR 36 for other confirmation services (2011: kEUR 70), kEUR 89 for tax services (2011: kEUR 91) and kEUR nil for other services (2011: kEUR nil).

### 34. EMPLOYEES

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

#### Employees by Function

<i>average number for the year</i>	2012	2011
------------------------------------	------	------

Sales	90	73
Research and Development	337	279
Manufacturing and Service	440	401
Administration	113	109
<b>Employees (§ 314 HGB)</b>	<b>980</b>	<b>862</b>
Executive board members	3	3
Apprentices	15	13
<b>Total Employees</b>	<b>998</b>	<b>878</b>

### 35. STATEMENT OF COMPLIANCE WITH THE GERMAN CORPORATE GOVERNANCE CODE

In 2012, Executive and Supervisory Boards have made the declaration of **COMPLIANCE** in accordance with Section 161 of AktG and this is permanently available on the Company's web site at [www.AIXTRON.com](http://www.AIXTRON.com).

### 36. SUPERVISORY BOARD AND EXECUTIVE BOARD

#### Composition of the Supervisory Board as of December 31, 2012

- Dipl.-Kfm. Kim Schindelhauer, Aachen, businessman (Chairman of the Supervisory Board since 2002)
- Dr. Holger Jürgensen, Aachen, physicist (Deputy Chairman of the Supervisory Board since 2002) (Resigned January 30, 2013)
- Prof. Dr. Wolfgang Blättchen, Leonberg, business consultant, Managing Director of Blättchen Advisory Group GmbH, member of the Supervisory Board since 1998.
  - Membership of Supervisory Boards and controlling bodies:
    - Pfisterer Holding AG, Winterbach - Chairman of the Supervisory Board
    - HAUBROK AG, Düsseldorf - Deputy Chairman of the Supervisory Board -
    - APCOA Parking AG, Stuttgart - member of the Supervisory Board -
    - FAS AG, Stuttgart - member of the Supervisory Board -
- Mr. Karl-Hermann Kuklies, Duisburg, businessman (member of the Supervisory Board since 1997) (Resigned January 30, 2013)
- Prof. Dr. Rüdiger von Rosen, Frankfurt/Main, businessman, Deutsches Aktieninstitut e.V., Frankfurt/Main - Managing Director of the Executive Board until June 30, 2012 (member of the Supervisory Board since 2002)
  - Membership of Supervisory Boards and controlling bodies:
    - PriceWaterhouseCoopers AG, Wirtschaftsprüfungsgesellschaft, Frankfurt/Main -member of the Supervisory Board -
    - ICF Kursmakler AG, Frankfurt/Main - Deputy Chairman of the Supervisory Board
- Prof. Dr. Petra Denk, Unterschleißheim, physicist, Professor of Energy Economics, Director of the Institute for Systems Energy Consulting, Landshut University of Applied Sciences

#### The composition of the Company's Executive Board is:

- Paul Hyland, Aachen, businessman, Chairman, President and Chief Executive Officer since 2002 (Until February 28, 2013)
- Dr. Bernd Schulte, Aachen, physicist, Executive Vice President and Chief Operating Officer since 2002
- Dipl.-Kfm. Wolfgang Breme, Aachen, business graduate, Executive Vice President and Chief Financial Officer since 2005
- Membership of Supervisory Boards and controlling bodies:
  - Deutsches Aktieninstitut e.V., Frankfurt/Main – member of the Executive Board –

### 37. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION AND UNCERTAINTY

The preparation of AIXTRON's Consolidated Financial Statements requires the Company to make certain estimates, judgments and assumptions that the Company 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 Company'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 is generally recognized in two stages for the supply of equipment to customers, partly on delivery and partly on final installation and acceptance (see note 2 (n)). The Company believes, based on past experience, that this method of recognizing revenue fairly states the revenues of the Company. The judgements made by management include an assessment of the point at which substantially all of the risks and rewards of ownership have passed to the customer.

#### **Valuation of Inventories**

Inventories are stated at the lower of cost and net realizable value. This requires the Company 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 note 3, during the years 2012 and 2011 the Company incurred expenses of kEUR 40,947 and kEUR 41,602 respectively, and in 2010 an income of kEUR 5,880 arising mainly from changes to past assumptions concerning 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 Company 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 Company's products. These factors could result in adjustment to the valuation of inventory in future periods, and significantly impact the Company's future operating results.

#### **Income Taxes**

At each balance sheet date, the Company 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 Company's ability to utilize future tax benefits. The carrying amount of deferred tax assets is disclosed in note 14.

# RESPONSIBILITY STATEMENT

Responsibility Statement required by section 37y no. 1 of the Wertpapierhandelsgesetz (WpHG – **GERMAN SECURITIES TRADING ACT**) in conjunction with sections 297(2) sentence 4 and 315(1) sentence 6 of the Handelsgesetzbuch (HGB – **GERMAN COMMERCIAL CODE**) for the Consolidated Financial Statements:

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

February 28, 2013  
AIXTRON SE, Herzogenrath

Executive Board

Paul Hyland  
Chief Executive Officer

Wolfgang Breme  
Chief Financial Officer

Dr. Bernd Schulte  
Chief Operating Officer



# INDEPENDENT AUDITORS' REPORT

We have audited the consolidated financial statements prepared by the AIXTRON SE (formerly: AIXTRON Aktiengesellschaft), Herzogenrath – comprising the consolidated statement of financial position, the consolidated income statement and consolidated statement of other comprehensive income, the consolidated statement of cash flow, the consolidated statement of changes in equity and the notes to the consolidated financial statements – and the group management report for the business year from January 1 to December 31, 2012. The preparation of the consolidated financial statements and the group management report in accordance with IFRS, as adopted by the European Union (EU), and the additional requirements of German commercial law pursuant to § 315a Abs. 1 HGB ("GERMAN COMMERCIAL CODE") are the responsibility of the parent Company's management. Our responsibility is to express an opinion on the consolidated financial statements and on the group management report based on our audit.

We conducted our audit of the consolidated financial statements in accordance with § 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer. Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the consolidated financial statements in accordance with the applicable financial reporting framework and in the group management report are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the group and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the consolidated financial statements and the group management report are examined primarily on a test basis within the framework of the audit. The audit includes assessing the annual financial statements of those entities included in consolidation, the determination of entities to be included in consolidation, the accounting and consolidation principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements and the group management report. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the consolidated financial statements of the AIXTRON SE (formerly: AIXTRON Aktiengesellschaft), Herzogenrath, comply with IFRS, as adopted by the EU and the additional requirements of German commercial law pursuant to § 315a Abs. 1 HGB and give a true and fair view of the net assets, financial position and results of operations of the group in accordance with these requirements. The group management report is consistent with the consolidated financial statements and as a whole provides a suitable view of the group's position and suitably presents the opportunities and risks of future development.

Düsseldorf, February 27, 2013

Deloitte & Touche GmbH  
Wirtschaftsprüfungsgesellschaft

Wirtschaftsprüfer  
(German Public Auditor)

Wirtschaftsprüfer  
(German Public Auditor)

# GLOSSARY

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

## A //

### ALD

Atomic Layer Deposition (ALD) is a method for producing ultra-thin films for **SEMICONDUCTOR DEVICES** and new, emerging non-semiconductor applications. ALD is a technology that is capable of meeting the production requirements of next-generation geometries (45 **NANOMETER** and below). The ALD process is used to pulse and purge two reactants to **DEPOSIT** films. In the purge process **CARRIER GASES** like argon or nitrogen are employed.

### AVD®

Atomic Vapor Deposition (**AVD®**); a liquid delivery and evaporation technology. Liquid precursors or precursor solutions are sprayed directly into the flash vaporizer via injectors. Up to four injectors – one for each precursor source – can be used.

## B //

### BACKLIGHTING

The assemblies used to illuminate the liquid-crystal **DISPLAYS (LCDS)** of electronic equipment are known as "backlighting" assemblies. **LEDS** are used for backlighting because their advantages – long operating lifetime, robustness and small dimensions – are all of particular benefit. Displays for small mobile equipment such as mobile phones or navigation **DEVICES** are typical examples of applications.

## C //

### CAPACITOR

A capacitor is a circuit element formed by placing an insulating layer between two conducting layers; its function is to store an electrical charge. It is a very important component of **MEMORY CHIPS**.

### CAPITAL MARKET

The capital market is part of the financial market and is the entirety of all institutions and transactions whose purpose is to combine supply and demand for long-term (financial) capital.

### **CARBON NANOTUBES**

Carbon nanotubes (CNT) are microscopically small tube-shaped structures of carbon (molecular nanotubes). Depending on the structural detail, the electrical conductivity within the tubes is either metallic or semiconducting. There are also carbon nanotubes with superconducting properties at low temperatures. **TRANSISTORS** and simple circuits have already been produced using semiconducting carbon nanotubes.

### **CARRIER GAS**

In the process for the production of **COMPOUND SEMICONDUCTOR** layers or **SILICON DEVICES**, the raw materials are converted into gases and transported into the reactor with the help of a carrier gas. **CARRIER GASES** most commonly used are hydrogen, argon and nitrogen.

### **CHIP**

The finished **DEVICE** structure which constitutes a very small element of the **SEMICONDUCTOR WAFER**.

### **CLEAN ROOM**

In a clean room area of a **SEMICONDUCTOR** fab, all **WAFER** processing is completed. Dust and particles which might fall on the **WAFERS** during processing and result in the circuits not functioning correctly are kept out of the clean room by filtering the air and managing the air flow. Personnel are required to wear specially designed clean room overalls and "booties" over their street clothes and shoes, and must wear gloves and face masks (humans tend to shed skin and hair). Not even normal paper is allowed in clean rooms – only clean room low particulate paper may be taken in.

### **CLOSE COUPLED SHOWERHEAD®**

With this technology, the reagent gases are introduced vertically into the reactor through a water-cooled showerhead surface covering the entire area of deposition.

During deposition, the showerhead is extremely close to the **SUBSTRATES** and is constructed to enable precursors to be kept separate right up to the point where they are injected into the reactor chamber. The gases are injected through a multiplicity of small tube orifices into the chamber in order to create a very uniform distribution of reagent gases.

## CMOS

Complementary Metal Oxide **SEMICONDUCTOR** (CMOS) is a major class of integrated circuits. CMOS technology is used in **CHIPS** such as microprocessors, microcontrollers, static RAM, and other digital logic circuits. CMOS technology is also used for a wide variety of analog circuits such as image sensors, data converters, and highly integrated transceivers for many types of communication **DEVICES**.

## COMPLIANCE

Compliance (including regulatory compliance) stands for the observance of laws and company policies, but also of voluntary codes. The totality of the principles, processes and measures of a company to comply with certain rules and thus to avoid breaking the rules in a company is called Compliance Management System and is a part of the **CORPORATE GOVERNANCE** system.

## COMPOUND SEMICONDUCTORS

These multi-element **SEMICONDUCTORS** are complex crystal growth structures containing a variety of material elements. The structures are defined by the **PERIODIC TABLE** groups from which they come. For example: IV/IV (germanium/**SILICON**), III/V (gallium/nitrogen), II/VI (magnesium/ oxygen). Compound semiconductors have several advantages compared to single element semiconductors. Many have properties that allow them to emit or absorb light very efficiently (for illumination or production of electrical energy). Many can be processed into **DEVICES** that have better power capabilities, operation frequency or efficiency than similar devices made from silicon only.

## CORPORATE GOVERNANCE

Corporate Governance refers to the system by which companies are directed and controlled. Effective Corporate Governance guarantees that an enterprise is managed in a responsible, professional and transparent manner with the purpose of safeguarding its long-term success. It is intended to reflect and serve the purposes of the organization itself, its owners and all other stakeholders. Corporate Governance is very complex and includes both mandatory and voluntary measures: observance of legal provisions and policies (**COMPLIANCE**), conformance with recognized standards

and recommendations as well as the development of the company's own guidelines and adherence to them.

### **CVD**

Chemical Vapor Deposition (CVD) is the deposition of thin films (usually dielectrics/insulators) on **SILICON WAFERS** placed in a reactor chamber or furnace. The target deposition material is delivered to the surface of the **WAFER** in the form of a mixture of gases which then react at the surface of the wafers. CVD can be done at medium to high temperature in a furnace, or in a CVD reactor in which the wafers are heated but the walls of the reactor are not. Plasma enhanced CVD avoids the need for high temperature by exciting the reactant gases into a plasma.



### **DEPOSIT/GROWTH**

**SEMICONDUCTOR DEVICES** comprise of several crystalline layers. Deposition is the correct term for the creation of these layers on a **WAFER**.

### **DEPOSITION**

Deposition describes the process by which material carrying gases are introduced into the reactor chamber where the required crystal growth or deposition process occurs on the **WAFERS**. Depending on the kind of coating process, different electronic and optoelectronic **DEVICES** can be manufactured, e.g. **LEDS**, lasers, solar cells or **TRANSISTORS**.

### **DEVICES**

These are the completed products which are manufactured with the compound or **SILICON SEMICONDUCTOR CHIPS** at their core. For example, **LEDS** and lasers, **TRANSISTORS**, **MEMORY AND LOGIC CHIPS**, as well as solar cells.

### **DIODE**

A two-terminal electronic **DEVICE** which permits significant current flow in only one direction. Diodes typically function as a rectifier, i.e. converting alternating current into direct current.

## DISPLAY

A display is an electronic **DEVICE** for displaying images and text. **DISPLAYS** can be found in many industrial and consumer electronic products, e.g. in digital cameras, cell phones or navigational equipment, as well as in flat screen televisions.

## DRAM

Dynamic Random Access Memory (DRAM) is a volatile type of **SEMICONDUCTOR MEMORY CHIP**, on which data is lost after an interruption of the electric power supply.

## E //

## ELECTRONIC PAPER

Electronic paper (also e-paper, E-Paper or ePaper) aims to imitate printed paper. **DISPLAYS** of so-called E-Book Readers (EBR) reflect light in the same way as common paper **DEVICES** do. Static digital information such as texts or pictures can be displayed semi-permanently and does not require any additional energy whilst being viewed. The image can be changed at any time and requires only a small energy input to be changed. Some methods allow the production of electronic paper displays which are nearly as flexible and thin as common paper devices.

## EPITAXY

The deposition of thin single crystalline layers on a suited **SUBSTRATE** in the form of crystal growth.

## F //

## FeRAM

FeRAM (Ferroelectric Random Access Memory) is a nonvolatile computer **MEMORY CHIP**. It is similar in construction to **DRAM**, which is currently the most commonly used main memory in computers. FeRAM is based on a ferroelectric layer whose memory state is still retained even after switching off the power supply. At the same time it allows operating speeds that come close to those of **DRAMS**.

#### **FLASH MEMORY**

See **NAND FLASH MEMORY**.



#### **GAS FOIL ROTATION®**

**GAS FOIL ROTATION®** (GFR) means that the **WAFER** carriers in AIXTRON **MOCVD** equipment turn friction-free on gas cushions. This movement is powered by a directed gas flow.

#### **GENERAL LIGHTING**

General lighting is the uniform, even illumination of a space. The term “solid state lighting” is also used in this context: Today this is what all **SEMICONDUCTOR**-based lighting components are called. They include **LEDS** and **OLEDs**, among others.

#### **GERMAN COMMERCIAL CODE**

The German Commercial Code (HGB) contains the core of the commercial law of Germany.

#### **GERMAN SECURITIES TRADING ACT**

The German Securities Trading Act (WpHG) regulates securities trading in Germany and serves in particular the control of the service industry, that deals with securities and financial futures, but also the protection of the investor.

#### **GERMAN STOCK OPERATION ACT**

The German Stock Corporation Act (AktG) regulates the setting up, incorporation, accounting, liquidation, and stockholders' meetings of stock corporations and partnerships limited by shares.

#### **GLOVEBOX**



The hermetically sealed reactor cabinet with arm-length gloves in which the operator can slide his hands in order to carry out internal work from outside the cabinet. These cabinets protect the reactor from contamination with oxygen or humidity and ensure the purity of the epitaxial process.

H //

#### HBT

The Heterojunction Bipolar **TRANSISTOR** (HBT) is an improvement of the bipolar junction transistor, using differing **SEMICONDUCTOR** materials for the emitter and base regions and creating a heterojunction, that can handle signals of very high frequencies up to 600 GHz and more. This type of **DEVICE** is common in modern ultrafast circuits as well as applications requiring a high power efficiency, such as power amplifiers in cellular phones.

#### HEMT

High Electron Mobility **TRANSISTOR** (HEMT) is a field-effect transistor incorporating a junction between two materials with different band gaps. A commonly used material combination is GaAs with AlGaAs. HEMTs have attracted attention due to their high-power performance capabilities, especially for high frequency applications.

#### HVPE

Hydride Vapor Phase **EPITAXY** (HVPE) is a technique employed to produce **SEMICONDUCTORS** e.g. III-V **COMPOUND SEMICONDUCTOR** materials from metallic sources of group III elements and hydrogen compounds of group V elements of the semiconductor crystal. Also see **VPE**.

I //

#### ISO 9001

ISO 9001 is part of a series of standards that document the principles for quality management measures within a company. This standard describes the entire quality management system as a model and is the basis for a comprehensive quality management system.

L //

### LCD

A Liquid Crystal Display (LCD) fulfills the same function as a monochrome or color television tube, namely as a display. LCD **DISPLAYS** are very thin and energy-saving.

### LED

A light-emitting diode (LED) is an electronic **SEMICONDUCTOR DEVICE**. **LEDS** can emit very bright light and are highly energy-efficient. The most commonly used LEDs generally have an area of 0.1 mm<sup>2</sup> (ca. 20 mA) whereas the most powerful LEDs can have an area of 1 mm<sup>2</sup> (ca. 350 mA) or more. This places LEDs among the world's smallest light sources and their low power consumption and heat emission qualities make LEDs potentially far more economical and safer than traditional lighting.

### LOGIC CHIP

The critical **CHIP** which does the necessary computational calculations in an electronic component. For example, the main chip in a computer is a microprocessor, for mathematical computations, amongst other things.



### MEMORY CHIP

A **CHIP** which retains the information that logic **CHIPS** will then process. For example, in a computer, the **MEMORY CHIPS** will store the word processing program while it is being used, and the letters of the word processing documents which are being worked on. **DRAM** is the type of memory used most in computers, and is by far the most important type of memory from a total worldwide revenue standpoint.

### MOCVD

Metal-Organic Chemical Vapor Deposition (**MOCVD**) is a **COMPOUND SEMICONDUCTOR** production method where the raw material "metal-organic compounds" are transformed into gases and then, bound to a **CARRIER GAS**, are subsequently fed into the reactor. This transformation also occurs under reduced pressure, down to approximately one-tenth of normal atmospheric pressure. The advantage is that the gases being introduced are of high purity and can be finely dosed. **MOCVD** allows the processing of quite large surface areas and therefore is the first choice for the production of **COMPOUND SEMICONDUCTORS**. AIXTRON is one of the global market leaders in this technology.

N //

**NAND FLASH MEMORY**

A non-volatile computer memory manufactured in NAND (Not/AND) technology. Flash memories are characterized by the fact that they can be electrically erased and reprogrammed. This technology is mainly used for memory cards. The data of a **FLASH MEMORY DEVICE** is retained even after interruptions in the power supply.

### **NANOMETER**

One nanometer (nm) is equal to one billionth of a meter and is approximately 70,000 times thinner than a human hair.

### **NANOTECHNOLOGY**

The term "nanotechnology" refers to the research being conducted in cluster- and surface physics, **SEMICONDUCTOR** physics, specific areas of chemistry such as surface chemistry, and to a more limited extent, in areas of mechanical engineering and food technology ("nano food"). The collective term is derived from the magnitude common to all of the research areas, namely, structures with sizes ranging from a single atom to 100 nanometers (nm). Nanomaterials play an increasingly important role in the miniaturization of circuit elements. Typical nanotech material structures are the so-called "quantum dots". Modern processors also have structures smaller than 100nm, which could therefore also be called "nanotech" as well.

### **NASDAQ**

NASDAQ ("National Association of Securities Dealers Automated Quotations") is a stock exchange founded in 1971 as a fully electronic platform. Securities trading on NASDAQ is regulated by the United States Securities and Exchange Commission (SEC).

### **NON-VOLATILE MEMORY**

A non-volatile memory **DEVICE** is a **SEMICONDUCTOR** memory device which will not lose its data even after its power source is switched off. This is in contrast to volatile memory (e.g. **DRAMS**), which loses its data when the power supply to the **CHIP** is interrupted.



### **OLED**

Organic Light Emitting Diode: An OLED is a solid state **DEVICE** that typically consists of a series of organic thin films sandwiched between two thin film conductive electrodes.

The choice of organic materials and the layer structure determine the device's performance features: emitted color, operating lifetime and power efficiency.

### **OVPD®**

Organic Vapor Phase Deposition (OVPD®) is a technology for the thin film deposition of small molecular organic materials. It utilizes the advantages of gas phase deposition, where the materials are transported to the **SUBSTRATE** by an inert **CARRIER GAS**.

P //

### **PCRAM**

This abbreviation stands for Phase Change RAM and refers to a type of **NON-VOLATILE MEMORY** in electronics. The active principle of this memory is based on the differences in electrical resistivity exhibited by the material depending on whether it is in the amorphous phase (high resistivity/RESET state) or the crystalline phase (low resistivity/SET state). The material used is a chalcogenide alloy (chalcogenide compound) similar to the material used for data storage in a CD-RW or DVD-RAM – also on the basis of phase change.

### **PECVD**

Plasma-Enhanced Chemical Vapor Deposition or also Plasma Assisted Chemical Vapor Deposition (PECVD) is the term for a special type of Chemical Vapor Deposition (CVD) process used to **DEPOSIT** thin films by chemical reaction, as with the CVD technique. In addition, the process is supported by a plasma. The plasma can burn directly in contact to the **SUBSTRATE** to be layered (direct plasma method) or in a separate chamber (remote plasma method).

### **PERIODIC SYSTEM**

All elements are ordered within the **PERIODIC TABLE** according to their atomic number and chemical properties into main- and subgroups. **MOCVD** technology uses elements like gallium arsenide (GaAs), indium phosphide (InP), gallium nitride (GaN) and related alloys. They are also called "III-V **SEMICONDUCTORS**" because they are elements of group III and V of the Periodic Table and can interact to form crystalline compounds.

### PLANETARY REACTOR®

The **PLANETARY REACTOR®** is based on the principle of a horizontal laminar flow reactor. The laminar flow principle guarantees extremely precise heterojunctions and unequaled control of deposition rates at the atomic monolayer level. The combination of this principle with AIXTRON's unique multiple **SUBSTRATE** carrier rotation methodology, known as **GAS FOIL ROTATION®** (GFR), ensures excellent deposition uniformity, regarding layer thickness, composition and doping. In addition, the special reactor inlet, which allows the separation of reactive gases, ensures a uniform outward radial flow and optimum distribution adjustment.

### PLANETARY ROTATION

A specific arrangement of the **WAFERS** within an **MOCVD** reactor for the production process, whereby a number of small discs holding the wafers orbit like planets in space around the central gas injector (**GAS FOIL ROTATION®**). The large plate, where those small discs lie on, also turns. This method facilitates a uniform, even deposition of **COMPOUND SEMICONDUCTOR** layers on the **WAFER**. AIXTRON employs this process as part of its MOCVD technology (**PLANETARY REACTOR®**).

### PRIME STANDARD

As a sub-segment of the Regulated Market with additional requirements for admission, organized under private law and regulated by legislation, the Prime Standard is the segment of the Frankfurt Stock Exchange with the highest transparency standards, surpassing those of the General Standard. Admission to Prime Standard is a prerequisite for shares to be included in the **DAX®**, **MDAX®**, **TecDAX®** and **SDAX®** indices.

### PVPD®

Polymer Vapor Phase Deposition (**PVPD®**) is a technological process that is used e.g. in the production of **ELECTRONIC PAPER**.



### RFID CHIPS

Radio-frequency identification (RFID) is the use of an object (typically referred to as an RFID tag) applied to or incorporated into a product, animal, or person for the purpose of identification and tracking using radio waves. This contact-free technology makes the capture and storage of data considerably easier.

S //

**SARBANES-OXLEY ACT**

The Sarbanes-Oxley Act of 2002 (also SOX) is a United States federal law designed to improve the reporting reliability of companies that make use of the public **CAPITAL MARKET** of the United States.

### **SEMICONDUCTOR**

A material such as **SILICON** whose conductivity lies between that of a conductor and an insulator. Its conductivity can be modulated by adding impurities (such as boron or phosphorus in silicon).

### **SILICON**

An element of the **PERIODIC TABLE** with the symbol Si. Silicon is a **SEMICONDUCTOR** used to fabricate most **TRANSISTORS** and integrated circuits.

### **SUBSTRATE**

A substrate is the base material on which **SEMICONDUCTOR** layers are deposited, see also **WAFER**.

### **SUSCEPTOR**

This circular plate serves as the pocket holder for the **SUBSTRATE** or the substrate carrier. Normally it consists of graphite so that excellent temperature uniformity can be achieved.

T //

### **TecDAX®**

The TecDAX® is a German stock market technology index. Along with those in the DAX®, the MDAX® and the SDAX®, the companies in the TecDAX® are listed in the **PRIME STANDARD**.

### **TFT**

A thin-film **TRANSISTOR** (TFT) is a special field-effect transistor that allows the production of electronic circuits with large areas, e.g. on glass screens, backlit by **LEDS**. It is increasingly used in laptops, computer monitors and televisions.



## TRANSISTORS

These **DEVICES** are divided into two types: the fieldeffect **TRANSISTOR** is based on the effect that, by means of a voltage applied through an insulated terminal (gate), a current can be controlled between two terminals (source and drain). In the case of a bipolar transistor, the current is controlled between the two terminals by means of a small current at the base. This current controls the current flow between the two other terminals, referred to as emitter and collector.



## VPE

This is an older, established process for the production of **COMPOUND SEMICONDUCTORS**. In contrast to **MOCVD**, this gas phase process exclusively uses inorganic substances as starting materials. The method allows for clean **DEPOSITS** of very thick and pure layers. However, not all materials can be produced by this method. This method (also referred to as **HVPE** – Hydride VPE) has gained much attention as a way to produce high quality gallium nitride **SUBSTRATES** or templates.



## WAFER

The technical term for the **SUBSTRATE** material (e.g. **SILICON**), typically a thin disc of **SEMICONDUCTOR** material, on which the layers are deposited in the reactor. The diameter of **WAFERS** is typically 2 inch, 100, 150, 200 or 300 mm.

Service Imprint

# IMPRINT

## IMPRINT

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