

Fiscal Year  
2016/17  
ZEISS Group



# Financial Highlights

(IFRSs)

	2016/17		2015/16		2014/15	
	€ m	%	€ m	%	€ m	%
<b>Revenue</b>	<b>5,348</b>	<b>100</b>	4,881	100	4,511	100
» Germany	621	12	612	13	547	12
» Other countries	4,727	88	4,269	87	3,964	88
<b>Research and development expenses</b>	<b>552</b>	<b>10</b>	436	9	466	10
<b>EBIT</b>	<b>770</b>	<b>14</b>	615	13	369	8
<b>Consolidated profit/loss</b>	<b>561</b>	<b>10</b>	404	8	208	5
 <b>Cash flows from operating activities</b>	<b>445</b>		425		396	
<b>Cash flows from investing activities</b>	<b>-642</b>		-357		-206	
<b>Cash flows from financing activities</b>	<b>258</b>		-207		-25	
 <b>Total assets</b>	<b>7,317</b>	<b>100</b>	5,658	100	5,417	100
<b>Property, plant and equipment</b>	<b>973</b>	<b>13</b>	979	17	1,005	19
» Capital expenditures	183		154		160	
» Amortization, depreciation and impairment	160		155		150	
<b>Inventories</b>	<b>1,275</b>	<b>17</b>	1,118	20	1,081	20
<b>Equity</b>	<b>3,429</b>	<b>47</b>	1,416	25	1,357	25
<b>Net liquidity</b>	<b>1,986</b>		568		374	
 <b>Employees as of 30 September</b>	<b>26,945</b>		25,433		24,946	
» Germany	11,339		10,770		10,895	
» Other countries	15,606		14,663		14,051	



For more information, visit:  
[www.zeiss.com/annualreport](http://www.zeiss.com/annualreport)

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Technology

Industry

Knowledge

Society

New Work

# **Helping to Shape the Networked Future**

Today's technology offers many networking possibilities. However, it is still people who decide what opportunities it offers and how it is utilized. Only they can think into the future and ask the right questions. Networking knowledge intelligently lays the best foundation to achieve this goal.

Networking has various dimensions, both physically and virtually. Digitalization is rapidly leading to a technological shift that is impacting practically all areas of our lives. Commerce, industry and society are changing. New structures, new ways of thinking and acting are determining future success. This dynamic development is also offering many opportunities that can be leveraged through meaningful networking.

Networking – whether with science, within industry, in the work environment, of technologies or in society – ZEISS has subjected this issue to close scrutiny during fiscal year 2016/17.

The following questions were the focus of attention and will continue to play a key role in the future:  
What will become of our knowledge? What role does networking play in industry's thinking and actions?  
Do we need to relearn the way we live and work?  
What impact is technology having on us? Does progress have a social conscience?

# Foreword from the Executive Board

**Ladies and Gentlemen,  
Dear Friends of ZEISS,**

Fiscal year 2016/17 marks a further important milestone on our growth trajectory: our revenue reached a record level of 5.348 billion euros (prior year: 4.881 billion euros). Consolidated profit rose by 39 percent to 561 million euros, also the highest figure on record.

The ZEISS Group is growing around the globe. This is still particularly true in Asia, as well as in the currently less dynamic markets such as Europe and North America. All four segments – Semiconductor Manufacturing Technology, Research & Quality Technology, Medical Technology and Vision Care/Consumer Products – have helped us achieve this positive result. We have never taken this for granted. On this note, we would like to thank our customers for their trust and partnership. Our thanks also go, of course, to all of our employees who have made this success possible. Their commitment deserves the very greatest respect. Every single day, they demonstrate their dedication to our customers and bring our corporate strategy, the ZEISS Agenda 2020, to life with untiring energy and effort.

Extensive and open collaboration with our customers and close networking with our partners are increasingly shaping our business and have now become a key foundation for our success. We succeed in creating market-shaping innovations because we develop products together with our customers and therefore cater precisely to their needs. One impressive example during the last fiscal year was the ZEISS KINEVO 900 robotic visualization system for neurosurgery. We are continuing to drive this development by constantly expanding our Customer and Application Centers around the globe. The progress achieved in the development of the cutting-edge technology EUV would not have been possible without strong partners – we have been working hand in hand with ASML for the past 20 years. With its minority stake in our semiconductor segment and the associated investments of around 760 million euros in the next five years, we will succeed in achieving a breakthrough with the next EUV generation. In the age of digitalization, horizontal networking is vital. Examples of this development include strategic alliances such as the recently concluded joint venture ADAMOS, in which we will design and implement Smart Production solutions for the mid-sized mechanical engineering sector together with other collaboration partners. More customer orientation and greater proximity to our partners – this is also the goal of our new competence center called Digital Innovation Partners in Munich, which is supporting and promoting the digital transformation of the entire company.

Our success in the past fiscal year and our constant growth since the financial crisis of 2008/09 should not be taken for granted. We have a great responsibility to ensure that this development continues in the future. Therefore, this makes the challenge posed by the increasing uncertainty of the general economic framework all the greater. At ZEISS we will continue to see changes in technology and society as opportunities and will provide our customers with products and solutions that will help them to be successful in their field of activity.

As a modern, global and dynamic company, ZEISS is heading in the right direction. We will implement the corporate strategy ZEISS Agenda 2020 consistently through innovations, investments and targeted business expansion. Even after 170 years, this will enable us to constantly evolve the company and continue to create market-shaping innovations for the benefit not only of our customers, but also of society as a whole. On behalf of all my colleagues on the Executive Board and our employees, I would like to thank our customers and business partners for placing their trust in us.

Oberkochen, December 2017



**Prof. Dr. Michael Kaschke**

President and Chief Executive Officer



### **Thomas Spitzenpfeil**

Member of the Executive Board responsible for:

- » Corporate Finance & Controlling
- » Corporate Information Technology
- » Corporate Auditing & Risk Management
- » Corporate Security
- » Digital Innovation Partners
- » Financial Services
- » Consolidation & Accounting Center
- » Business Services & Infrastructure
- » Shared Production Unit
- » the sales and service companies in Austria, Switzerland, United Kingdom, Czech Republic, Nordics and Poland

Joined ZEISS as a Member of the Executive Board in 2010

### **Matthias Metz**

Dr. rer. pol.

Member of the Executive Board responsible for:

- » Vision Care/Consumer Products (President and Chief Executive Officer of Carl Zeiss Vision International GmbH)
- » the sales and service companies in Belgium, Brazil, France, Italy, Mexico and the Netherlands

Joined ZEISS as a Member of the Executive Board in 2015

### **Michael Kaschke**

Prof. Dr. sc. nat.

President and Chief Executive Officer

Member of the Executive Board responsible for:

- » Research & Quality Technology
- » Semiconductor Manufacturing Technology
- » Strategic Corporate Development
- » Corporate Communications
- » Corporate Legal & Patents
- » Corporate Human Resources
- » the sales and service companies in Australia, China, India, South Korea, Southeast Asia, USA (holding company) and South Africa

Joined ZEISS in 1992, Member of the Executive Board since 2000, President and Chief Executive Officer since 2011

### **Ludwin Monz**

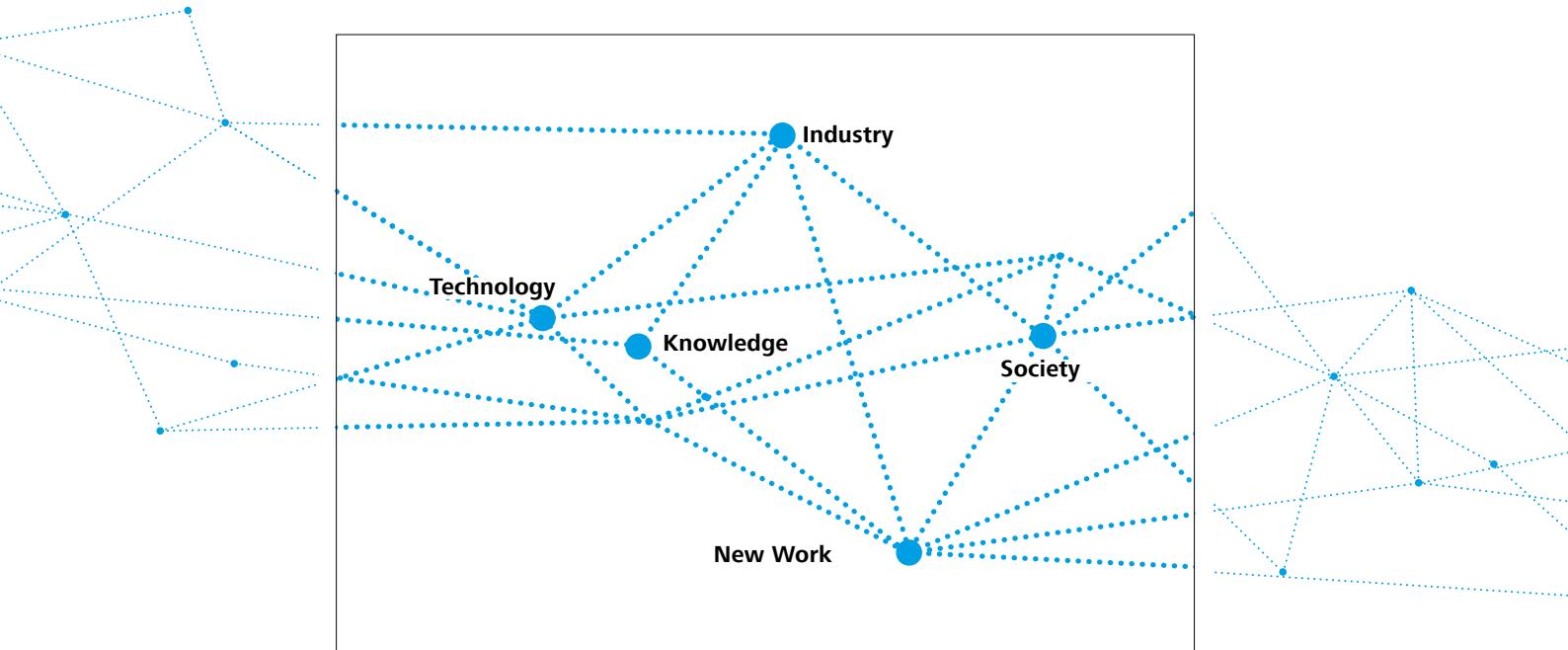
Dr. rer. nat.

Member of the Executive Board responsible for:

- » Medical Technology (President and Chief Executive Officer of Carl Zeiss Meditec AG)
- » Corporate Quality Management
- » Corporate Research & Technology
- » the sales and service companies in Japan, Spain and Turkey

Joined ZEISS in 1994, Member of the Executive Board since 2014

# Networking and its Many Different Dimensions



For some time now, the German economy has been experiencing an upswing with no end in sight. Nevertheless, companies are also faced with major challenges. Megatrends such as digitalization and the resulting technologies, the shortage of energy and resources, climate change, the demographic shift and new forms of disease diagnosis and therapy are changing society and industry from the ground up. In response to this trend, ZEISS sees the extensive networking of many different areas as one of the main challenges that must be addressed to help shape future developments and offer customers suitable solutions for a successful future.

ZEISS stands for technology and innovation leadership and aspires to shape markets with innovations. Networking comes in many different forms, and ZEISS has committed to all its many dimensions. The networking of industry, science, technologies and society is of central importance. Digitalization – as one form of

networking – offers many opportunities to achieve these goals. It is playing an increasingly important role in the global economy. Networking and digitalization are not only laying the foundations for innovative products and technologies, but are also prompting and promoting new forms of collaboration.

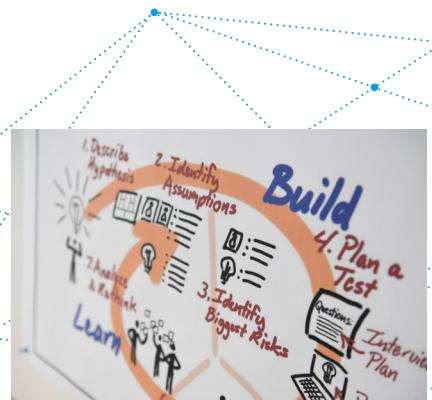
ZEISS is creating the framework required to ensure that it can continue to develop market-shaping innovations in the future – both for the company itself and for each individual employee.

More efficient workflows and new methods are triggering changes in our everyday work and are making it possible to make customers more successful. ZEISS is promoting, for example, agile software and hardware development and is anchoring agile methods more firmly in the company. At the internal ZEISS Innovation Days 2017, agile methods in software and hardware development were already the focus of attention and were tested and applied in various workshops.

Rapidly changing customer requirements are necessitating the rapid development of targeted solutions. Scrum and design thinking are two methods that support work processes at ZEISS and help trans-



- Networking is also being advanced within the company: at the ZEISS Innovation Days in May 2017 employees from many different international sites worked ...



- ... on the further development of concrete ideas for products and solutions on a cross-divisional basis



- The focus was on agile work with dynamic development methods and design thinking.

form the challenges of digitalization – such as volatility, uncertainty, complexity and ambiguity – into opportunities for new products and services.

This is made possible through meaningful networking across disciplines, industries and frontiers. ZEISS already initiated the rethinking process and actions required to accomplish these objectives some time ago.

#### **Networking pools knowledge**

For ZEISS, knowledge sharing is central to achieving success. For many years, many German companies concentrated on keeping knowhow within the bounds of their own enterprise and on handing it down from one generation to another. Now, however, the focus is on sharing knowledge. The goal is to leverage synergies with experts from other disciplines and industries and turn them into new

results and innovative products. Here, particular importance is attached to actively involving and integrating the customer at an early stage. Collaboration with and at universities and research institutes is also increasing at ZEISS. This requires the creation of new structures.

One trend is the evolution of new corporate structures. Large companies are setting up think-tanks or innovation hubs, in which researchers and developers can work under optimum conditions and, due to their physical proximity, collaborate very closely with the relevant specialist disciplines. The dovetailing and interaction of various disciplines offer major opportunities to promote new ideas and shape the future. Dialog with other companies and the open exchange of knowledge are becoming more important in the process of achieving faster and better results for customers. One

example of this is the ADAMOS platform consortium which ZEISS co-founded this year. It is Germany's first alliance of prestigious mechanical engineering and software companies. Its goal is to enable customer success through joint Smart Production solutions. The open platform offers space for new partners and the opportunity to interconnect, with the goal of implementing a networked and collaborative world.

#### **Networking lets industry cross frontiers**

Thinking bigger, thinking beyond, looking behind the obvious. Various international collaborations with other companies exemplify the implementation of this goal. ZEISS and CISCO, for instance, are collaborating in the field of global machine connectivity. To advance the development of digital solutions for ophthalmology, ZEISS has acquired the



US company Veracity Innovations, LLC. Its data management solution is aimed at helping ophthalmologists to optimize patient care.

ZEISS is closely networked not only in USA, the most important single market for ZEISS, but also in China – one of the biggest growth markets.

With its development engagement in the ZEISS Innovation Center for Research and Development in Shanghai (China), ZEISS is promoting a new and open form of joint, overarching collaboration.

### **Networking is creating and organizing New Work**

ZEISS is evolving New Work methods to accelerate developments, create new business models and overcome the cultural hurdles encountered through growing internationalization. The new

Competence Center in Munich is therefore focusing its activities on accelerating the digital transformation of ZEISS.

### **Networking is opening up new dimensions to technology**

Digital transformation is impacting both our working and private lives. Above all, however, it is generating inconceivable volumes of data. This is its real value.

The key challenges of the future consist in networking this data efficiently, identifying customer needs and offering tailor-made solutions. The developments are progressing at lightning speed. The intelligent, efficient manufacture enabled by Smart Production is making increasing inroads into production processes. Possibilities such as autonomous driving, using smartphones to efficiently control the supply of energy to our homes and the availability of digital services will

continue to increase. The more widespread networking becomes, the more services will be offered and used, and the more and more data will be generated.

ZEISS and ASML have now intensified their partnership in order to accelerate the development of the next generation of Extreme Ultra Violet (EUV) lithography systems to be launched on the market in the next decade.

At some stage in the future, memory space will run out and its processing will be hampered. Existing technology must advance into new dimensions. Quantum technology is aimed at addressing this future challenge. In early 2018, under the theme of "Optics in a Quantum World," ZEISS will be networking international scientists and representatives from the corporate world in order to discuss further leading-edge optical technologies.

- Current developments require a new and open form of collaboration.



- The focus of networked work in the future will be on the efficient interlinking of data, identifying the needs of our customers and offering them tailor-made solutions

- Key capabilities of the future will require efficient networking of data, identifying customer requirements and the tailoring of solutions to precisely meet these needs.

### **Networking entails greater responsibility for society**

Social and societal engagement are part of the ZEISS DNA. Networking is accelerating internationalization and is hence heightening the awareness of social responsibility. Around 2.5 billion people around the globe have no access to an ophthalmologist or optometrist. With various aid programs, e.g. in China, the Amazonas region and in the Australian outback, ZEISS is committed to finding ways to alleviate the problem through the use of digital technology.

In India, where 300 million people do not receive adequate medical care and need prescription eyewear, ZEISS joined forces with other companies and non-governmental organizations to found the Aloka Vision Programme. The goal was to develop a business model that gives people on site the possibility of earning money

through the urgently needed eyeglasses. Aloka has now trained 28 small business owners who conduct eye tests and offer eyeglasses in eight of the country's federal states. To keep costs low, the administration work is done digitally. Eye-glass orders and deliveries are processed via tablets, taking networking to even the farthest-flung corners of the earth.

### **Networking reimagined**

Networking has many different facets and dimensions – digitalization is only one of them. It clearly shows at what great speed our society and industry are changing from the ground up. While the first ZEISS Symposium in 2016 addressed the subject of digitalization, the next event will be focused on Optics in the Quantum World. On 18 April 2018 luminaries from the worlds of commerce and science will discuss future trends such as quantum sensors, quantum communication and quantum computing in industry and research. The aim of the ZEISS Symposium is to network international experts from industry and commerce with each other at a very early stage. This will be followed by a ceremony when the ZEISS Research Award will be presented.

**[www.zeiss.com/symposium](http://www.zeiss.com/symposium)**

# ZEISS in a Networked World

The world – and therefore also industry – is currently in transition. Networked data, new software solutions and digital services lay the foundation for the Smart Factories of the future. Last fiscal year, with tailor-made customer solutions, new collaborations and business expansions, ZEISS continued to drive networking in order to increase the effectiveness and, above all, enhance the success of the company's customers. This is underscored by an overview of highlights selected from fiscal year 2016/17.



## • Exclusive partnership with Nokia Phones

In July 2017 ZEISS and HMD Global, the home of Nokia phones, together announced the signing of an exclusive partnership that is aimed at setting new imaging trends in the smartphone sector. The long-term agreement is based on the joint history and experience of ZEISS and Nokia smartphones. The goal of the partnership is to advance the digital imaging experience with smartphone photography and videos across the entire ecosystem: from software and services to screen quality and optic design. The new Nokia 8 with ZEISS Optics was already presented in August 2017.



## • Surgeon-controlled robotics

ZEISS KINEVO is a system that revolutionizes visualization in neurosurgery. It incorporates highly innovative technology that reduces the necessity of manual repositioning and expands the surgeon's line of sight. In addition, it enables surgery with digital visualization in order both to prevent an uncomfortable posture for the surgeon and to provide residents, OR staff and trainee doctors with a high-resolution, digital image and hence facilitate education and training. ZEISS KINEVO was developed on the basis of a large-scale market survey and in collaboration with 50 neurosurgeons from 14 countries in ten customer groups.



## • Deutsche Telekom and ZEISS collaborate in the development of data glasses

At the Mobile World Congress 2017 in Barcelona, Deutsche Telekom and ZEISS announced future collaboration in the field of data glasses. The goal is to explore and drive the application potential and future of data glasses. With innovative smart glass optics and state-of-the-art connectivity, ZEISS and Deutsche Telekom combine two elements that are critical for the success of these products.



## • Cloud-based technology platform for ophthalmologists

ZEISS continued its digitalization strategy with the acquisition of the company Veracity Innovations, LLC, in August 2017. Headquartered in Temple, Texas (USA), the company has developed an innovative, cloud-based technology platform for ophthalmologists that supports the workflow through the targeted provision of context-dependent information and relevant patient data in order to assist in achieving optimum treatment outcomes and an efficient workflow. Veracity Innovations, LLC, develops innovative and relevant software solutions for ophthalmologists that are cost-efficient and easy to operate.



#### • New Demo and Application Centers worldwide

Asian, America and Europe: eight ZEISS Microscopy Customer Centers are now available to customers around the globe. Opened in 2017, the Customer Center Europe in Oberkochen showcases light, electron and X-ray microscopes at a single location. Here customers from Industry and Academia can witness the outstanding performance of ZEISS microscope systems and experience almost the complete technology portfolio at one go.



#### • New Competence Center drives digital transformation

At the end of November 2016 ZEISS founded a new Competence Center in Munich in order to further accelerate the company's digital transformation: ZEISS Digital Innovation Partners will support the business groups in leveraging the opportunities offered by digitalization for customers, partners and employees. The center will grow to around 100 employees by the end of 2018 and will also be present at other ZEISS sites around the globe.



#### • New dimension in the field of vision care

With complete solutions tailored to each customer's needs, the newly opened ZEISS Vision Center of Puyi Optical in Hongkong offers a totally new retail experience in the field of eyeglass products. Within the framework of the close partnership between ZEISS and Puyi Optical, the pilot of the new 3D system for capturing centration data, ZEISS VISUFIT 1000, is being used for the very first time.



#### • ZEISS and ASML focus on EUV

The many years of successful partnership between ZEISS and the Dutch company ASML was further intensified in November 2016. ASML now has a 24.9 percent stake in Carl Zeiss SMT. The intensification of the partnership and the associated investments of some 760 million euros are aimed in particular at accelerating the extremely challenging development of the next generation of EUV lithography systems to be launched on the market in the next decade.



#### • New building for semiconductor technology of the future

The world's most modern center for lithography optics is still growing: ZEISS is expanding its production capabilities in Oberkochen and is also building a new facility for the next generation of lithography optics with extreme ultraviolet light. This requires even higher production standards. This leading-edge technology should be available for the production of new, high-performance chips at the beginning of the next decade.



#### • ZEISS participates in industry platform

Since September 2017, with the joint venture ADAMOS (ADaptive Manufacturing Open Solutions), ZEISS has been part of a new alliance between machine building and IT for Smart Production. Germany's first alliance of well-known industrial and software companies aims to establish ADAMOS as the global standard for the industry and attract other machine builders to become partners. The open IIoT(Industrial Internet of Things) platform ADAMOS enables machine builders to offer their customers tried and tested solutions for digitally networked production with little effort.



#### • ZEISS expands its portfolio in the field of digital services

In May 2017 ZEISS and CISCO announced their collaboration in the field of global machine connectivity. ZEISS is therefore expanding its portfolio in the area of digital services. The goal of the collaboration is to generate a secure data transmission platform in order to connect ZEISS machines with higher-ranking systems in a Smart Production environment and therefore investigate the potential of end-to-end data links for industrial applications.

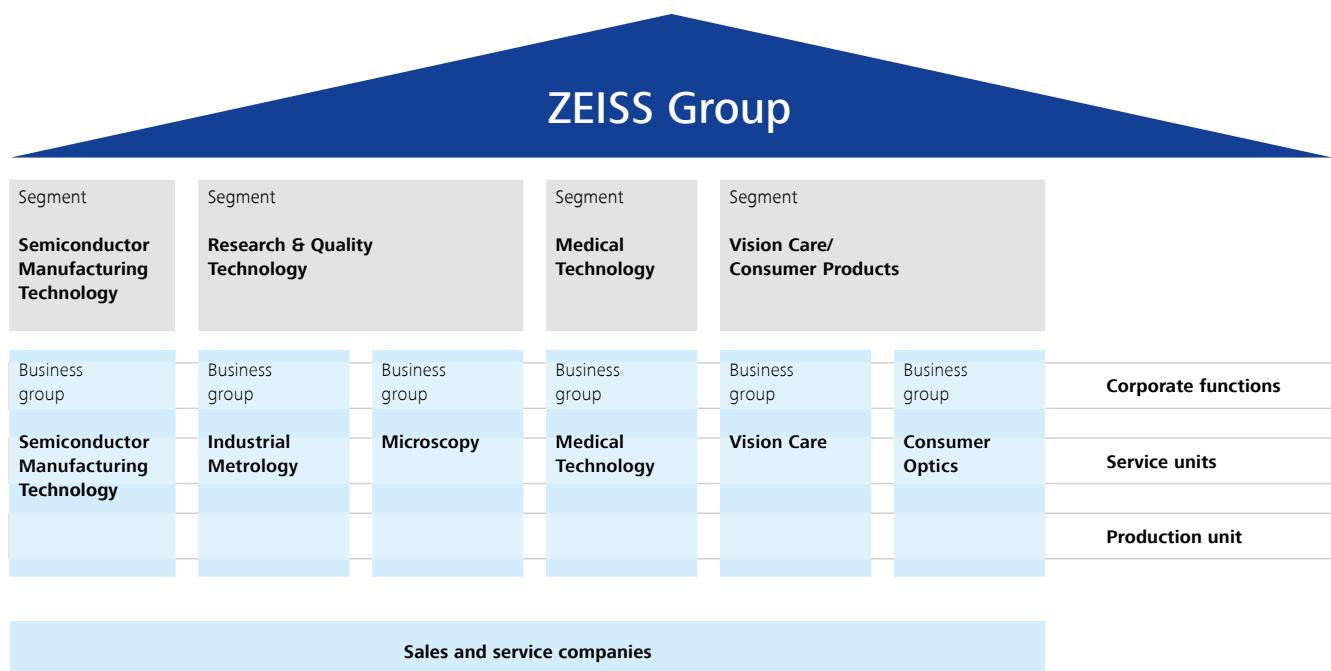
# Sites

A lot has happened since ZEISS opened its first branch outside Germany in London in 1893. Today the ZEISS Group is represented in over 40 countries. Around 27,000 employees worldwide work at more than 30 manufacturing sites, over 50 sales and service locations and about 25 research and development facilities. The company is headquartered in Oberkochen in southwestern Germany.



# Organizational Structure

ZEISS is an internationally leading technology enterprise operating in the fields of optics and optoelectronics. The company has been helping to shape technological progress for 170 years. The broad portfolio of the ZEISS Group is divided up into four segments and comprises six business groups and various strategic business units.



# Semiconductor Manufacturing Technology

Today, a large proportion of all microchips is produced with ZEISS technologies. As the technology leader in the field of semiconductor manufacturing equipment, ZEISS enables the production of increasingly powerful, more energy-efficient and more economical microchips, and thus plays a pivotal role in the age of microelectronics.

## **Research & Quality Technology**

ZEISS ensures standards of quality wherever maximum precision is a must: with coordinate measuring machines, metrology software and microscope systems for research and material inspection. ZEISS plays its part in ensuring that even the tiniest structures and processes become visible

Medical Technology

With products and solutions for ophthalmology, neuro-surgery, ENT surgery and dentistry, ZEISS helps drive progress in medicine and assists doctors all over the world in enhancing their patients' quality of life.

## **Vision Care/Consumer Products**

As one of the world's leading manufacturers of eyeglass lenses, ZEISS stands for maximum visual comfort. The movie and camera lenses, binoculars, spotting scopes, riflescopes, planetariums and virtual reality (VR) headsets from ZEISS all offer their users outstanding optical quality and therefore unforgettable moments.

# Responsibility

For more than 100 years, the statute of the Carl Zeiss Foundation has provided clear orientation: in addition to profitable growth, it sets forth high standards in terms of responsibility vis-à-vis employees and its social and societal commitment, and consistently promotes science and education as a major corporate objective. ZEISS not only assumes responsibility due to its sense of duty, but also by conviction.

In order to keep living up to these goals today, ZEISS established the Carl Zeiss Promotion Fund back in 2011 and therefore assumes social and societal responsibility not only within the company itself, but also in its direct surroundings. Since then, over five million euros has been used to promote social projects, initiatives and facilities at the company's main German sites.

The company's regional engagement was also broadened in fiscal year 2016/17. This underscores the company's degree of commitment to the individual regions and its declared intent to enhance the appeal of its sites, and not only for its own employees and their families.

For 20 years, the company has been highly committed to the regional competition *Jugend forscht* in Oberkochen, and for four years in Jena. In 2017, more than 200 children and young people presented over 100 ideas at the two sites in line with this year's theme "I can shape the future." Just like in previous years, the focus was on issues related to the natural sciences. ZEISS therefore specifically promotes up-and-coming scientists and is delighted at the large number of applications demonstrating



**More than two billion people around the globe have no access to an ophthalmologist or optometrist. Since 2015, ZEISS has been using the Aloka Vision Programme to deliver basic eye care to remote parts of rural India – hand in hand with non-governmental organizations, foundations and small local businesses**

the pioneering spirit of young researchers in the regions.

ZEISS also lives and breathes responsibility across the globe. One example of

this is the Aloka Vision Programme. More than two billion people around the world have no access to vision testing and eye exams because there are no ophthalmologists or optometrists in their country. While an optometrist in Europe tends to between 6,000 and 10,000 patients, this figure stands at anywhere between 200,000 and a million inhabitants in many rural regions. Since 2015, ZEISS has been teaming up with non-governmental organizations, foundations and small local businesses to deliver basic eye care to remote parts of rural India. Thanks to these partnerships, simple



**East Württemberg regional competition *Jugend forscht*: 69 projects presented by 142 young researchers**



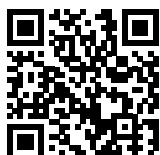
**85 people submitted 43 projects to take part in the fourth regional competition in Jena**

# Ownership Structure

The Carl Zeiss Foundation is the sole stockholder of Carl Zeiss AG. This special ownership structure ensures stability: the Foundation's constitution prohibits the sale of shares, e.g. through an initial public offering. The shares are not therefore listed on any stock exchange.

digital platforms and an optimized supply chain, Aloka has made it possible to perform up to 8,000 vision tests and eye exams per month and sell as many as 2,300 pairs of glasses. Most patients are day laborers or migrant workers and their families. The proceeds from the eyeglass sales go straight to the partners and local businesses. To ensure the sustainability of this approach, it is essential not only to set up a basic infrastructure but also, and above all, to train the small business owners and educate the population about the benefits of good vision – eyeglasses for the correction of defective vision are often seen as a luxury, or even unnecessary. In places not covered by the Aloka Social Business Programme, ZEISS employees and customers have joined forces with development association *Miracle of Sight e.V.* This means screenings and vision correction funded by donations can also be offered to orphans, slums and to the children of migrant workers.

More information about social and societal engagement and on other topics related to sustainability management at ZEISS – on employees, the environment, products and the value chain as well as integrity and compliance – can be found at [www.zeiss.com/responsibility](http://www.zeiss.com/responsibility) and, from early 2018, also in a Sustainability Report.



In 1889 the physicist and entrepreneur Ernst Abbe created the Carl Zeiss Foundation to which Carl Zeiss AG and SCHOTT AG belong. The objectives of the foundation stipulated by Abbe remain valid to this very day:

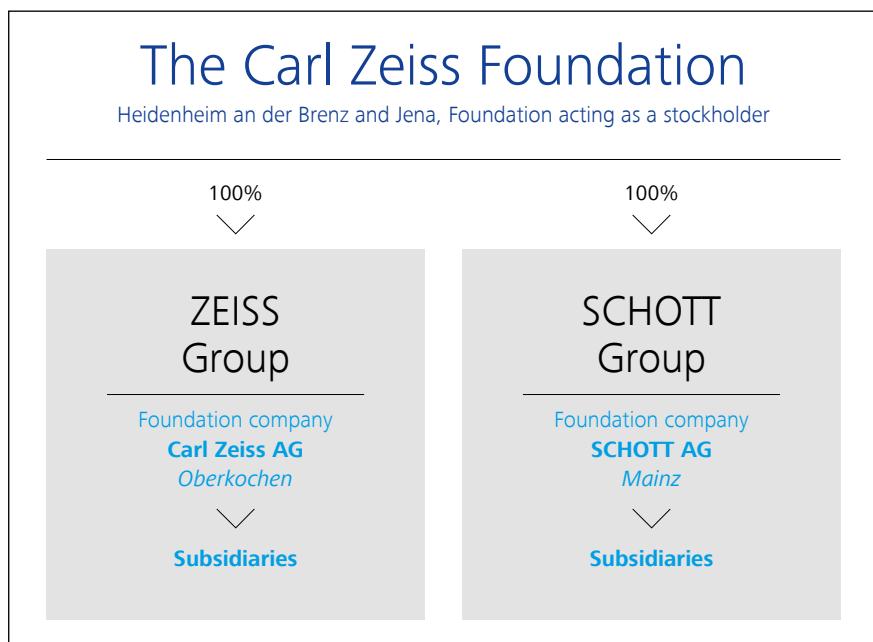
- » safeguarding the future and responsible management of the two Foundation companies
- » fulfilling its special responsibility toward employees
- » meeting its responsibility toward society through the commitment of its member companies to non-profit activities in their surrounding regions
- » promoting science

With this unique corporate model, the Carl Zeiss Foundation and its two member companies made industrial and social history in Germany. The Foundation uses the dividends generated by Carl Zeiss AG and SCHOTT AG to promote science – in particular the natural and engineering sciences, and mathematics and information technology at universities in the German federal states of Baden-Württemberg, Rhineland-Palatinate and Thuringia.



For more information, visit:  
<http://www.carl-zeiss-stiftung-125jahre.de/english/>

## Structure of the Carl Zeiss Foundation



# Report of the Supervisory Board



Prof. Dr. Dieter Kurz

## Ladies and Gentlemen,

Fiscal year 2016/17 was an extremely successful one for ZEISS. With technological innovations and bold investments, ZEISS has impressively expanded leading market positions and simultaneously strengthened its competitiveness.

In the past fiscal year the Supervisory Board oversaw and advised the Executive Board in accordance with the duties entrusted to supervisory boards by law, the articles of association and rules of internal procedure. The Executive Board provided us with written and verbal information about the business situation and development, the current earnings situation, the risk situation, risk management, short-term and long-term planning, investments and organizational measures. I was in close contact with the Executive Board and received regular information about the development of the business situation and important business transactions. The Supervisory Board was involved in all important decisions and passed the resolutions required by law, the articles of association and rules of internal procedure. Our decisions were based on the reports and decisions proposed by the Executive Board, which we subjected to in-depth scrutiny. The Executive Board and the Supervisory Board once again collaborated very constructively this fiscal year, therefore securing the ongoing growth trajectory of ZEISS.

## Subjects of the Supervisory Board meetings

The Supervisory Board convened on six occasions during fiscal year 2016/17. We scrutinized the company's long-term strategic development which is encompassed by the ZEISS Agenda 2020. The Supervisory Board shares the assessment of the Executive Board that megatrends such as digitalization, the aging society and mobility are having a major impact on all ZEISS businesses and attaches the highest importance to them as growth levers for our overall business.

During the consultations, approval was also granted to the site strategy through 2023 that defines the strategic investments at the international sites within the framework of the ZEISS Agenda 2020. Acquisitions and investments were further important subjects addressed by the Supervisory Board. In an extraordinary meeting held at the beginning of the fiscal year consent was given to the signing of the agreement with the Dutch company ASML. ASML's 24.9 percent stake in SMT at a purchase price of one billion euros had already been approved in principle during the prior year. The Supervisory Board firmly believes that this transaction is essential for the ongoing development of the next generation of EUV lithography and that it will also secure future growth for ZEISS in the Semiconductor Manufacturing Technology segment. A majority stake in the Russian distribution partner Optec was also approved.

In November 2016 the application for the consensual termination of Dr. Hermann Gerlinger's ongoing appointment as a Member of the Executive Board for personal reasons was approved, effective 31 December 2016. The Supervisory Board is extremely grateful to Mr. Gerlinger for his long and untiring commitment to the company. Consultations concerning the future management structure, successor planning and the reallocation of business responsibilities within the Executive Board were ongoing. The renewal of the appointment of the President and Chief Executive Officer until 30 June 2020 ensures continuity. The renewal of the appointment to the Executive Board of Dr. Ludwin Monz until 30 September 2022 and that of Dr. Matthias Metz until 30 June 2023 reflect the recognition of their achievements by the Supervisory Board and underscore the continuity of our successful collaboration with the Executive Board. This continuity will be further pursued with the resolution passed on target parameters for the Supervisory Board and Executive Board in conjunction with the law in Germany governing the equal participation of women and men in leading positions by 30 June 2022.

## Work of the Supervisory Board committees

The Audit Committee met three times as scheduled. It evaluated the efficacy of risk management and discussed subjects such as compliance, internal auditing, the internal control system, accounting and the key issues of the annual audit and the annual financial statements. The Chairman's Committee convened five times. The subjects addressed by the meetings included consultations concerning the resolution for Dr. Hermann Gerlinger's exit and the associated contractual provisions. In the Supervisory Board meetings the Chairmen of the Audit and Chairman's Committees re-

ported regularly about the work of the committees. The Mediation Committee did not convene during the reporting year.

### **Changes to the Supervisory Board**

No changes were made to the composition of the Supervisory Board in fiscal year 2016/17. With my reelection as a Member of the Supervisory Board until 31 December 2021, my own office was confirmed by the Annual General Meeting, followed by my election as its Chairman by the Supervisory Board.

### **Audit of the annual and consolidated financial statements**

The auditing firm Ernst & Young GmbH, Stuttgart, audited the consolidated financial statements of Carl Zeiss AG, including the Management Report, for fiscal year 2016/17 prepared pursuant to Sec. 315a (3) of the German Commercial Code (HGB) in accordance with International Financial Reporting Standards (IFRS) and issued an unqualified auditor's report in each case. Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, also audited the dependent company report prepared by the Executive Board.

All members of the Supervisory Board received the independent auditor's documents and audit reports in good time. We closely examined the documents and discussed them in detail at the meeting of the Audit Committee on 11 December 2017 and at the Supervisory Board meeting held on 12 December 2017. The independent auditor attended both meetings, presented the major results of the audit, provided supplementary information and answered questions. The Chairman of the Audit Committee reported in the plenary assembly about the result of the examination of the consolidated financial statements by the Audit Committee. After examining the documents, the Supervisory Board endorsed the results obtained by the auditor and approved the financial statements prepared by the Executive Board. The Carl Zeiss AG financial statements were thereby adopted, effective 30 September 2017. Pursuant to Sec. 312 German Stock Corporation Act (AktG), the Executive Board has prepared the above-mentioned dependent company report for the period from 1 October 2016 to 30 September 2017.

The independent auditors issued the following opinion on the findings of their audit: "Based on our audit, which was carried out in accordance with professional standards, we confirm that

1. the actual disclosures contained in the report are correct and
2. the payments made by the Company in the legal transactions listed in the report were not unreasonably high."

The Supervisory Board agreed with the results of the audit presented by the independent auditors. Following the final result of the review by the Supervisory Board, there were no objections to the Executive Board's concluding statement in the dependent company report.

The Executive Board's proposal to pay a dividend of 48.85 million euros from net income to the sole stockholder, the Carl Zeiss Foundation, was approved.

On behalf of the Supervisory Board I would like to thank the members of the Executive Board and all employees of ZEISS for their outstanding efforts that made the successful 2016/17 fiscal year possible.

Oberkochen, December 2017  
On behalf of the Supervisory Board



**Prof. Dr. Dieter Kurz**  
Chairman of the Supervisory Board:

# Supervisory Board of Carl Zeiss AG

(Status: 30 September 2017)

## Supervisory Board of Carl Zeiss AG

### Prof. Dr. Dieter Kurz

Chairman

Lindau, Chairman of the Foundation Council of the Carl-Zeiss-Stiftung, Heidenheim an der Brenz and Jena

### Manfred Wicht<sup>1</sup>

Deputy Chairman

Königsbronn, Chairman of the Group Employee Representative Council of Carl Zeiss AG, Oberkochen

### Hariolf Abele<sup>1</sup>

Aalen, Deputy Chairman of the Employee Representative Council of Carl Zeiss Industrielle Messtechnik GmbH, Oberkochen

### Prof. Dr. Martin Allespach<sup>1</sup>

Weinheim, Director and Head of the European Academy of Labour at the University of Frankfurt am Main

### Gerhard Bösner<sup>1</sup>

Aalen, Chairman of the Employee Representative Council of Carl Zeiss SMT GmbH, Oberkochen

### Dr. Klaus Dieterich

Stuttgart, former President of Corporate Research and Development, Robert Bosch GmbH, Stuttgart

### Angelika Franzke<sup>1</sup>

Oberkochen, Chairwoman of the Employee Representative Council of Carl Zeiss AG, Oberkochen

### Roland Hamm<sup>1</sup>

Aalen, First Authorized Representative of IG Metall trade union, Administration Office, Aalen

### Dr. Mathias Kammüller

Gerlingen, Managing Partner of TRUMPF GmbH + Co. KG, Ditzingen

### Dr. Joachim Kreuzburg

Hanover, Chairman of the Executive Board of Sartorius AG, Göttingen

### Eva-Maria Menzel<sup>1</sup>

Jena, Deputy Chairwoman of the Employee Representative Council at Jena site of Carl Zeiss Jena GmbH and Carl Zeiss AG

### Prof. Dr. Jürgen Mlynek

Berlin, former President of the Helmholtz Association of German National Research Centres, Berlin

### Dr. Lothar Steinebach

Leverkusen, Former Member of the Management Board of Henkel AG & Co. KGaA, Dusseldorf

### Prof. Dr. Dr. h. c. Günter Stock

Berlin, Chairman of the Executive Board of the Einstein Foundation Berlin, Berlin

### Wilhelm Ulrich<sup>1</sup>

Aalen, Head of Optics Department (Corporate Research & Technology) of Carl Zeiss AG, Oberkochen

### Dr. Eberhard Veit

Göppingen, Managing Partner of 4.0-Veit GbR, Göppingen

## Committees of the Supervisory Board

### Chairman's Committee

Dr. Dieter Kurz (Chairman)  
Dr. Klaus Dieterich  
Hariolf Abele<sup>1</sup>  
Manfred Wicht<sup>1</sup>

### Audit Committee

Dr. Lothar Steinebach (Chairman)  
Hariolf Abele<sup>1</sup>  
Dr. Dieter Kurz  
Wilhelm Ulrich<sup>1</sup>

### Mediation Committee

Dr. Dieter Kurz (Chairman)  
Dr. Mathias Kammüller  
Eva-Maria Menzel<sup>1</sup>  
Manfred Wicht<sup>1</sup>

<sup>1</sup> Employee representatives

## Corporate Governance

For ZEISS, acting lawfully and responsibly and managing the company in a transparent manner that is focused on its long-term success are basic principles of corporate policy.

With its corporate governance structure, ZEISS ensures that legal provisions, the constitution of the Carl Zeiss Foundation and the company's internal directives are observed in line with compliance stipulations.

The Code of Conduct is a core element of the compliance management system of the ZEISS Group. This summarizes the rudiments and principles of action that form the basis of responsible conduct. The Code of Conduct is binding upon all employees and is published on the company's website.

## **Group Management Report**

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# Group Management Report

## THE ZEISS GROUP

### **Business activity**

ZEISS is an internationally leading technology enterprise operating in the optics and optoelectronics industries. The Group emerged from a workshop for precision mechanics and optics established by company founder Carl Zeiss in Jena (Thuringia) in 1846. Today, ZEISS is headquartered in Oberkochen (Baden-Württemberg).

ZEISS plays an active part in advancing leading-edge technology and drives forward the world of optics and other related fields with its solutions. The Group comprises 4 segments.

### **Semiconductor Manufacturing Technology**

With a wide product portfolio and globally leading know-how, the Semiconductor Manufacturing Technology segment covers a variety of key processes in the production of microchips. ZEISS develops and manufactures semiconductor manufacturing optics, including lithography optics, photomasks systems and process control solutions for the semiconductor industry. The technologies from ZEISS enable further miniaturization of semiconductor structures, making microchips smaller, more powerful, energy-efficient and cost-effective. The electronic equipment with which they are equipped enable global progress in a variety of disciplines, including technology, electronics, communications, entertainment, mobility and energy.

### **Research & Quality Technology**

The Research & Quality Technology segment comprises business with industrial metrology and microscope systems: ZEISS develops and produces solutions for measurement technology, which include coordinate measuring machines, optical and multisensor systems, as well as metrology software for the automotive industry, mechanical engineering and aircraft construction, and for the plastics industry and medical technology. Innovative technologies such as the 3D X-ray measurement in quality assurance round off the portfolio products. The segment also offers a global range of services with testing sites and competence centers close to customers.

The segment also covers the entire spectrum of microscopy: light, ion, electron and X-ray microscopes. The solutions and services are used in the life sciences and materials research, as well as for industrial quality assurance, education and in clinical practice.

### **Medical Technology**

The Medical Technology segment develops, manufactures, markets and sells diagnostic and therapy systems, as well as implants and consumables in the field of ophthalmology. In addition, ZEISS offers visualization systems for microsurgery – for example, neuro/ENT surgery and dentistry. ZEISS aspires to improve the diagnosis and treatment of diseases by constantly enhancing its innovative products. As a solutions provider, the company plays an active part in the increasing digitalization and systems integration in the medical sector and creates the conditions needed for efficient processes and effective patient data management at its customers. The segment's activities are pooled primarily in the TecDAX-listed entity Carl Zeiss Meditec AG, in which Carl Zeiss AG has a 59.1% shareholding.

### **Vision Care/Consumer Products**

The Vision Care/Consumer Products segment pools the eyeglass business and the business with camera and cine lenses, binoculars, spotting scopes, hunting optics, virtual reality headsets, planetarium technology and sighting systems for flight simulations. ZEISS develops, produces and sells solutions for the entire eyeglass

value chain. Alongside eyeglass lenses, this includes devices for vision testing, digital consultation and measurement applications as well as services for eye care professionals. ZEISS is one of the world's largest manufacturers of eyeglass lenses.

### **Global presence**

The ZEISS Group is represented in more than 40 countries and has over 50 sales and service locations, more than 30 manufacturing sites and about 25 research and development centers around the globe.

### **Group structure**

Carl Zeiss AG is the strategic management holding company that manages the ZEISS Group. It develops the corporate business activities and portfolio and provides central management and service functions. The sole owner of the company is the Carl Zeiss Foundation (Carl Zeiss Stiftung).

### **Group strategy**

ZEISS has a broad and balanced business portfolio focusing on attractive future-oriented markets of optics, precision mechanics and optoelectronics. The objective of portfolio management is the sustainable business success of the ZEISS Group. This objective and the need to generate equity by means of internal financing require a systematic strategy geared to continuously enhancing value added.

The ZEISS mission statement is: "As the pioneer of science in optics, we continue to challenge the limits of our imagination. With our passion for excellence, we create value for our customers and inspire the world in new ways." This statement encapsulates the Group's fundamental objectives: ZEISS aims to leverage its customer focus to consolidate and expand its position as a global technology leader.

To achieve its objectives, ZEISS relies on the commitment and expertise of its employees, its innovative strength, its culture of innovation and its strong brand. Moreover, the Group is constantly working on increasing its international business activities.

The ZEISS Agenda 2020 program launched in fiscal year 2016/17 clearly defines the strategic direction for the development of the Group. In addition, it pools the key elements of the ZEISS portfolio strategy and the individual segments. The 4 cornerstones of ZEISS Agenda 2020 – CUSTOMER, COMPETITIVE, DIGITAL and TEAM – summarize what is necessary to successfully implement the strategy. The goal is to focus even more strongly on customers, to pay more consistent attention to competitiveness and to fully benefit from the possibilities of digitalization and the potential of the global ZEISS team.

### **Corporate management**

The ZEISS Group is managed using financial and non-financial key indicators. These are summarized in a balanced scorecard. For ZEISS, revenue growth and EBIT are the most important financial indicators. Other financial indicators are Economic Value Added (EVA®) and Free Cash Flow (FCF). Important non-financial indicators are customer and employee satisfaction, innovation excellence and process quality. In addition, there is a clear focus on sustainable further development of the leadership and corporate culture.

## REPORT ON ECONOMIC POSITION

### Macroeconomic and segment-specific environment

#### Macroeconomic environment

During the reporting period, global economic growth was somewhat stronger than previously forecast. The market growth of the industrial nations in fiscal year 2016/17 was moderate, but better than expected. In addition to the solid but somewhat more moderate market growth in the USA, there were signs of growth in Japan and the euro zone. The rapidly developing economies in Asia, such as India, continued to grow at above-average rates. Growth in China remained constant at the high level of the prior year. The Latin American markets did not develop uniformly; following a serious recession, Brazil showed first signs of growth tendencies, while Mexico enjoyed moderate growth.

Risks have not occurred that could lead to a slowdown in the global economy, such as a significant decline in economic growth in China or protectionist measures that can have a sustained impact on global trade.

#### Segment-specific environment

##### **Semiconductor Manufacturing Technology**

Global digitalization has multiplied the areas of application for the semiconductor sector. This led to global demand for semiconductor products, which are primarily deployed in mobile devices such as smartphones and tablets, but also with solid state drives, networks and server farms, developing above expectations in the reporting period. In order to meet the rising demand for semiconductors, chip manufacturers are again investing more in equipment. They are expanding their capacity for the production of memory and high-end chips in particular. Investment signals are also coming from new chip fabs in China.

##### **Research & Quality Technology**

In the market for industrial measuring technology, the positive trend continued at global level in fiscal year 2016/17. The automotive and the associated supplier industry were the key drivers. Additionally, there was stronger growth in other sectors, such as medical technology and aviation. While the market environment in Germany continued to develop positively, the US market is stagnating. The market environment in China developed positively, accompanied by increasing competitiveness.

During the reporting period, the microscopy market grew slightly. Asian countries continued to gain importance in global research spending. On the other hand, public sector investment in Europe and the USA remains slow. The market for industrial microscopes continued to grow in the semiconductor, electronics and automotive sectors, while demand from the global steel industry and the mining, oil and gas sectors weakened.

##### **Medical Technology**

The market for medical technology again saw stable growth. Growth drivers include medical advances as well as megatrends such as demographic development as a result of increasing life expectancy and population growth. While a growing per capita income increases the demand for basic medical care in the dynamically developing economies, the willingness of people in the western regions to pay more for better quality services is increasing.

Pressure to contain costs in the health care systems is increasingly generating price pressure. The growing regulatory requirements, and their variance from one region to another, are a growing challenge in the context of product development and licensing.

### **Vision Care/Consumer Products**

Global market growth in the vision care market remains stable. The main growth drivers are the good market development in the rapidly developing economies, demographic development as well as innovations for eye care professionals and consumers. However, the global market continues to be characterized by high price pressure and ongoing consolidation activities among competitors.

The market for camera lenses saw positive development in fiscal year 2016/17, especially in the area of mirrorless cameras for which ZEISS offers lenses such as the Batis and Loxia lines. However, the camera market for single-lens reflex cameras declined. A fierce price war continued to leave its mark on the market for binoculars. The specialty markets for hunting optics, nature observation and planetariums stagnated. The market for the new business of components for flight simulators grew as a result of modernization investments.

### **Overall statement on the economic situation of the Group as of fiscal year-end**

In fiscal year 2016/17, revenue of more than €5b was generated in an economically challenging environment. With double-digit revenue growth, revenue was €5,348m (prior year: €4,881m). Furthermore, the return on EBIT was over 14%.

The development that had been forecast in the prior year was thus exceeded.

The long-standing and successful partnership of the Semiconductor Manufacturing Technology segment with ASML Holding N.V., a leading global provider for the chip-making industry with registered offices in Veldhoven (Netherlands), was further intensified in the reporting year. ASML is one of the principal suppliers of systems and services to all leading chip manufacturers. These systems are used for the production of extremely small microstructures on semiconductor wafers. With its high-performance optics, the Semiconductor Manufacturing Technology segment supplies a core system of ASML's lithography scanner and is therefore ASML's most important strategic partner.

In connection with this, ASML paid a purchase price of €1b for a 24.9% stake in Carl Zeiss SMT Holding GmbH & Co. KG and thus to participate in the business of the Semiconductor Manufacturing Technology segment. The strengthening of the long-term collaborative partnership is intended in particular to accelerate the development of a future generation of Extreme Ultra Violet (EUV) lithography systems. The goal is to enable the semiconductor industry to produce significantly more powerful microchips at lower cost by the beginning of the next decade.

In addition, ASML will spend a further amount of approximately €220m on research and development and approximately €540m on equipment and services of the value chain of the Semiconductor Manufacturing Technology segment between 2017 and 2022.

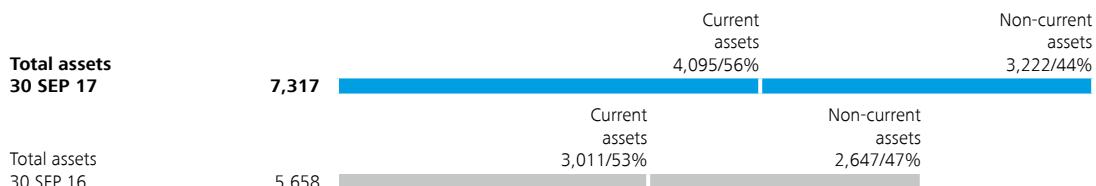
Carl Zeiss Meditec AG performed a capital increase in return for a cash contribution of €314m in March 2017, above all to finance the growth strategy of the company.

### **Net assets**

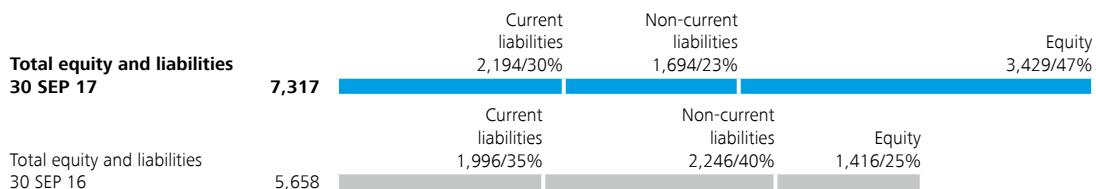
Total assets increased by €1,659m to €7,317m (prior year: €5,658m). With regard to assets, this resulted mainly from the change in non-current and current financial assets. This increase is mainly related to time deposits as well as investment in securities. The increase in equity is primarily a result of the investment by ASML and the good consolidated profit. Furthermore, the capital increase at Carl Zeiss Meditec AG increased equity accordingly.

The lower provisions for pensions and similar obligations compared with the prior year had the reverse effect on equity and liabilities. This was mainly due to the increase of the interest rate under IFRS of 2.00% in the reporting year (prior year: 1.30%) and the allocation to plan assets.

**Structure of the statement of financial position – assets** in € m/as a % of total assets



**Structure of the statement of financial position – equity and liabilities** in € m/as a % of total equity and liabilities



### Intangible assets

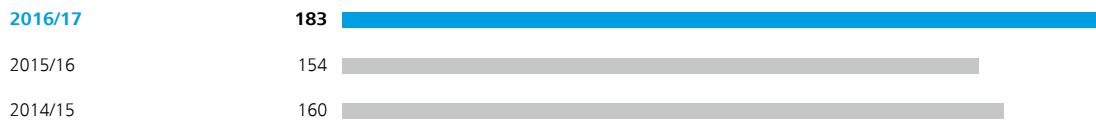
Intangible assets of €777m (prior year: €782m) mainly contain goodwill of €589m (prior year: €582m). The decrease in intangible assets is attributable to amortization.

The impairment tests performed in the reporting period did not give rise to the need to recognize any impairment losses on goodwill.

### Property, plant and equipment

In fiscal year 2016/17, ZEISS invested a total of €183m in property, plant and equipment (prior year: €154m), mainly in modernization measures relating to production plants and in furniture and fixtures. In addition, investment projects such as the ZEISS Microscopy Customer Center Europe in Oberkochen were completed. Depreciation in the reporting period amounted to €160m (prior year: €155m).

**Capital expenditures** on property, plant and equipment in € m



### Other non-current assets

Other non-current assets amounted to €819m (prior year: €150m) and mainly pertained to securities and fixed-term deposits, loans as well as assets for securing flextime credits via a contractual trust arrangement (CTA).

## **Working capital**

The change in inventories and current trade receivables is consistent with the increase in business volume compared to the prior year. The increase in trade receivables by 12% to €1,091m relates to the cut-off date. Inventories came to €1,275m as of the reporting date (prior year: €1,118m).

Other current assets amounted to €1,155m (prior year: €399m). The change mainly resulted from short-term deposits as well as investment in securities with a short-term investment horizon, which were higher than in the prior year.

Trade payables came to €362m as of the reporting date (prior year: €297m).

Current provisions came to €275m (prior year: €247m) and essentially comprise provisions for personnel-related and sales-related obligations, provisions for income taxes and provisions in connection with required structural adjustments.

The increase in other current non-financial liabilities by €104m to €1,394m (prior year: €1,290m) includes, among other things, the change in advances received, which increased by €39m in fiscal year 2016/17 to €551m (prior year: €512m) as well as personnel-related obligations.

## **Significant increase in equity**

Equity amounted to €3,429m as of the reporting date (prior year: €1,416m). This was primarily due to the investment of ASML in Carl Zeiss SMT Holding GmbH & Co. KG, the consolidated profit of €561m as well as the capital increase at Carl Zeiss Meditec AG. In addition, the remeasurement of defined benefit plans of €278m had a positive effect. The development of the exchange rates important to ZEISS and the dividends paid of €60m reduced equity accordingly.

The equity ratio of 46.9% was significantly higher than the prior-year level (prior year: 25.0%).

## **Pension obligations**

The financing of the pension obligations in Germany is structured for the most part in the form of a contractual trust arrangement (CTA). Capital to cover pension obligations toward active employees is transferred to a dedicated trust, thus clearly separating the funds for operations from those for the pension obligations. This has increased the transparency and international comparability of the Group's financial reporting. The legally independent trust invests the assets transferred to it on the basis of an appropriate long-term investment strategy. The pension obligations of the corresponding entities remain unchanged.

The CTA assets in Germany, which are separated from operating funds, increased in the reporting period to €1,189m (prior year: €975m). This increase results from transfers to the CTA of €155m and from the return on existing plan assets. Benefit obligations in Germany decreased on account of the interest rate under IFRS, which increased to 2.00% (prior year: 1.30%). For reasons relating to the cut-off date, this resulted in a funded status of the pension obligations of 82% (prior year: 58%). Pension obligations decreased by €502m to €1,085m (prior year: €1,587m).

The Group also has pension obligations toward employees of foreign subsidiaries.

In accordance with IAS 19, the pension obligations reported in the statement of financial position correspond to the actual obligations as of the reporting date and therefore correspond to the present value of benefit obligations after deducting the fair value of plan assets as of the reporting date. Provisions for pensions are reported at an amount of €1,185m (prior year: €1,719m) in the consolidated statement of financial position. This is equivalent to 16% of total assets (prior year: 30%).

## Financial liabilities

At €343m (prior year: €358m), financial liabilities were lower than the prior-year level. This amount essentially comprises promissory notes, a loan arranged with the Kreditanstalt für Wiederaufbau as well as issued participating capital.

## Profit participation

ZEISS employees participated in the company's profit for fiscal year 2016/17. The Group issued profit participation certificates with a total (nominal) volume of €4.1m to employees in Germany. The non-transferable certificates have an annual return, the level of which depends on the Group's financial performance. The profit participation certificates have a term of 5 years, after which they are repaid. In addition, employees in Germany received a bonus of up to €2,100 gross, paid in October 2017 after the end of the reporting period. Employees at the majority of entities outside Germany also participated in the profit for fiscal year 2016/17 on the basis of the respective country-specific regulations.

## Financial position

### Sound liquidity base to implement long-term growth strategy

The financial position was primarily shaped by the investment of ASML in Carl Zeiss SMT Holding GmbH & Co. KG, the good consolidated profit in the reporting year as well as the capital increase at Carl Zeiss Meditec AG. Furthermore, there were allocations to plan assets in Germany and abroad.

Cash flows from operating activities improved by 5% in the reporting period to €445m (prior year: €425m) and were largely determined by the profit for the year. The increase in inventories and trade receivables by a total of €346m relates to the increased business volume. In addition, there were allocations to plan assets in Germany and abroad of €168m.

Cash flows from investing activities came to minus €642m in the reporting period (prior year: minus €357m). Cash received from the participation of ASML in Carl Zeiss SMT Holding GmbH & Co. KG of €1,000m is offset by investments in fixed-term deposits as well as investment in securities of €1,365m. Capital expenditures on property, plant and equipment increased by 21% from minus €191m to minus €231m in fiscal year 2016/17.

Cash flows from financing activities amounted to €258m (prior year: minus €207m) in fiscal year 2016/17. The change is mainly attributable to the capital increase at Carl Zeiss Meditec AG. This was offset by dividend payments of €41m made in the reporting year.

Cash and cash equivalents<sup>1</sup> came to €2,201m as of the reporting date (prior year: €796m). This amount comprises markedly higher fixed-term deposits as well as investment in securities compared to the prior year. On the other hand, loans payable amounted to €215m (prior year: €228m), which resulted in net liquidity<sup>2</sup> of €1,986m (prior year: €568m).

#### Net liquidity in € m

	1,986	
30 SEP 16	568	
30 SEP 15	374	

<sup>1</sup> Cash and cash equivalents plus securities and fixed-term deposits

<sup>2</sup> Cash and cash equivalents less loans payable

The financial position offers a good base on which to realize the ZEISS Group's long-term growth strategy.

In addition, the Group has an extensive range of instruments at its disposal for raising external financing to fund its business operations. These include above all promissory notes totaling €167m, whose terms to maturity break down as follows:

- » €72m with a term of 5 years
- » €67.5m with a term of 7 years
- » €27.5m with a term of 10 years

Of this amount, a total of €69m is subject to floating interest rates and €98m is subject to fixed interest rates.

In addition, a revolving credit facility with a total volume of €500m and a term of 5 years was concluded between Carl Zeiss AG and a syndicate of banks in fiscal year 2013/14. The credit facility includes an extension option on 2 occasions, by 1 year in each case. The second extension option was exercised in May 2016, so that the extended maturity date is 16 July 2021. The revolving credit facility serves as a strategic liquidity reserve for the ZEISS Group, of which €29.7m was drawn in the reporting period (prior year €22.6m) to fund activities in other countries.

The loan arranged in fiscal year 2011/12 with Kreditanstalt für Wiederaufbau (€45m) remains in place. This is subject to fixed interest rates and is being repaid on a quarterly basis over the period from 31 March 2014 until 30 December 2021. The residual carrying amount totaled €24m as of the end of the reporting period.

### **Goals and principles of financial management**

ZEISS has a global financial management system that incorporates all subsidiaries and is coordinated centrally at group level. The primary objective is to secure and effectively manage the liquidity of the Group. In addition, ZEISS strives to continuously improve its financial strength and minimize financial risks. Investments are made principally in securities from issuers with good credit ratings. For ZEISS, the operations of the segments, with which the financial activities and strategic orientation are aligned, are the main source of liquidity. The Group has sufficient cash and cash equivalents and lines of credit to finance its operational and strategic objectives.

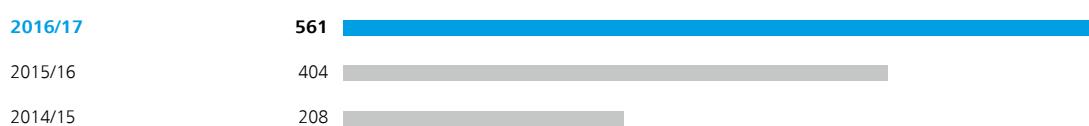
### **Results of operations**

The income statement has been prepared using the cost of sales method that is widely used internationally.

The results of operations are characterized by an increase in revenue in all segments and regions as well as a higher EBIT margin compared to the prior year. Currency effects had no significant impact on the results of operations of the ZEISS Group in the reporting period.

ZEISS achieved a consolidated profit of €561m (prior year: €404m).

#### **Consolidated profit/loss in € m**



## Revenue growth in a challenging market environment

In the reporting period, the ZEISS Group's revenue increased by 10% from €4,881m in the prior year to €5,348m, with the share of international revenue of 88% remaining unchanged at the very high level seen in prior years. The revenue development forecast in the prior year was exceeded.

**Revenue** in € m/international share as a %



The ZEISS Group's incoming orders increased by 12% (adjusted for currency effects: 12%) in the reporting period to €5,625m (prior year: €5,019m). Incoming orders in the instrument segment increased by a total of 6% (adjusted for currency effects: 7%). The Semiconductor Manufacturing Technology segment recorded an increase in incoming orders of 33% (adjusted for currency effects: 33%) compared to the prior year.

## Consolidated revenue by segment

Revenue by segment	2016/17	2015/16	Change compared to prior year as a %	
			€ m	Adjusted for currency effects
Semiconductor Manufacturing Technology	1,212	972	25	25
Research & Quality Technology	1,538	1,466	5	5
Medical Technology	1,427	1,290	11	11
Vision Care/Consumer Products	1,108	1,089	2	2
Other	63	64	-2	-2
<b>ZEISS Group</b>	<b>5,348</b>	<b>4,881</b>	<b>10</b>	<b>10</b>

### Semiconductor Manufacturing Technology

The Semiconductor Manufacturing Technology segment generated revenue of €1,212m. That is equivalent to an increase of 25% (adjusted for currency effects: 25%) compared to the prior year (€972m).

In the reporting year, ZEISS grew significantly compared to the prior year, especially in business with its strategic partner ASML. Deep Ultra Violet (DUV) lithography optics sales contributed significantly to the level of revenue achieved. Chip manufacturers ordered more systems from ASML thanks to improved productivity and stability of the Extreme Ultra Violet (EUV) wafer scanners. This led to the Semiconductor Manufacturing Technology segment recording an increasing number of orders for EUV lithography optics. In order to meet this demand, the segment is expanding its capacities. EUV technology enables chip manufacturers to develop the next generation of microprocessors and other integrated semiconductor structural elements.

A major focus of the business activities of the segment and ASML is the extremely challenging development and, with the expansion of the semiconductor plant in Oberkochen, also the ramp-up of the next generation of EUV lithography. This future-oriented technology should enable the semiconductor industry to produce significantly more powerful microchips at lower cost over the next decade.

The segment's other businesses with components and modules for lithography lasers and inspection optics saw an increase in demand. Sales of photomasks systems also made a significant contribution to revenue

growth in the reporting year, dominated by solutions for the repair of photomasks. A new addition to the segment's product portfolio are process control solutions for the manufacture of semiconductors, with which ZEISS is developing a new market. This area did not yet contribute to revenue in fiscal year 2016/17.

As of 30 September 2017, the segment had 2,879 employees worldwide (prior year: 2,674).

### ***Research & Quality Technology***

In fiscal year 2016/17, the segment increased its revenue by 5% (adjusted for currency effects: 5%) from €1,466m in the prior year to €1,538m.

Demand for metrology solutions from the Industrial Metrology business group developed very positively during the reporting period. Industrial Metrology experienced significant growth in the reporting period – especially in the markets USA and China, combined with a positive development of market share. Demand for services again grew in all regions and business areas. The focus remains on the implementation of a multi-channel sales strategy, the expansion of the software solutions portfolio in the Smart Production environment and acting as a solution provider for the implementation of customer requirements, for example in the electromobility environment.

Business with microscopy systems for academia was encouraging during the reporting period due to the introduction of new light microscopy solutions. Sales in the industrial sector continued to develop positively. The Microscopy business group benefited here from increasing investments in industrial research and production. By contrast, the area of materials analysis in the oil and gas industry was negatively impacted by the fall in the price of oil.

The rigorous implementation of the program designed to increase competitiveness launched in fiscal year 2014/15, resulted in savings both in cost of materials and non-personnel expenses in the Microscopy business group.

As of 30 September 2017, the segment had 6,303 employees worldwide (prior year: 6,069).

### ***Medical Technology***

The Medical Technology segment closed the fiscal year with a revenue increase of 11% (adjusted for currency effects: 11%). Revenue rose to €1,427m (prior year: €1,290m).

The Asia/Pacific region (APAC) proved to be the largest growth driver. China, Southeast Asia, India and South Korea in particular reported the highest growth rates, with products for ophthalmic surgery contributing in particular to positive development in the business. There was slight growth in the region of Europe, Middle East and Africa (EMEA), although business development of individual markets was extremely diverse. While the core markets developed positively or remained stable, the UK and Southern Europe saw a decrease. Revenue in the Americas region increased somewhat more strongly, mainly due to a positive development in the USA and Brazil.

As of 30 September 2017, the segment had 4,535 employees worldwide (prior year: 4,299). Due to different bases of consolidation, the figures for the Medical Technology segment deviate from those published for Carl Zeiss Meditec AG.

### ***Vision Care/Consumer Products***

The Vision Care/Consumer Products segment increased revenue in the fiscal year by 2% (adjusted for currency effects: 2%) from €1,089m in the prior year to €1,108m.

In the Vision Care segment, growth was achieved in all regions, in particular with ZEISS brand eyeglass lenses and product innovations. The EMEA region reported a significant increase in revenue. Business also developed positively in the rapidly growing economies, in particular in China and Brazil, as well as in the large markets in Central Europe. The USA, as largest market, continues to be a challenge, mainly as a result of intense competition among independent eye care professionals and increasing market entry barriers.

The business of the Consumer Optics business group was characterized in all areas by fierce competition and high price pressure. Nevertheless, the development in the motion picture business was very positive. The long-term extension of the collaboration agreements with Sony in the camera lens business unit as well as the start of cooperation with HMD in the field of NOKIA smartphone cameras opened new perspectives in these important market segments. The business with flight simulation provided additional growth potential.

As of 30 September 2017, the segment had 9,771 employees worldwide (prior year: 9,320).

### **Consolidated revenue by region**

Revenue by region and cooperation partners	2016/17		Change compared to prior year as a %	Adjusted for currency effects
	€ m	€ m		
EMEA	1,637	1,611	2	3
» thereof Germany	608	599	2	2
Americas	1,316	1,260	4	3
APAC	1,270	1,123	13	14
Cooperation partners	1,125	887	27	27
<b>ZEISS Group</b>	<b>5,348</b>	<b>4,881</b>	<b>10</b>	<b>10</b>

In the economic region of EMEA, ZEISS reported an increase in revenue in the reporting period of 2% (adjusted for currency effects: 3%) to €1,637m (prior year: €1,611m), with revenue in Germany increasing by 2% to €608m (prior year: €599m).

Business in the Americas region increased slightly. Revenue came to €1,316m, which is 4% (adjusted for currency effects: 3%) higher than in the prior year (€1,260m). The development of the US dollar had a slight positive effect in fiscal year 2016/17.

Revenue in the APAC region increased by 13% compared to the prior year (adjusted for currency effects: 14%) to €1,270m (prior year: €1,123m). China continued its growth trajectory in the reporting period.

Direct business with supra-regional cooperation partners increased by 27% to €1,125m in fiscal year 2016/17 (prior year: €887m). The main contributory factor was the positive investment behavior in that period in the semiconductor sector.

### **Functional costs**

Cost of sales increased by €73m in comparison to the prior year and came to €2,607m (prior year: €2,534m). Gross profit improved by €394m from €2,347m to €2,741m in the reporting year. ZEISS pursues the goal of systematically increasing its competitiveness. In this connection, the initiatives launched in the prior years were continued, leading to further productivity improvements. In the reporting year, these resulted in an increase in gross margin to 51% (prior year: 48%).

Sales and marketing expenses in fiscal year 2016/17 amounted to €1,109m (prior year: €972m). The development mainly relates to the instrument business and is attributable to the ZEISS Group's growth strategy. General administrative expenses decreased slightly to €325m (prior year: €329m), despite an increase in business volume.

Research and development expenses recognized in the consolidated income statement came to €552m in the reporting year (prior year: €436m).

	2016/17	2015/16
	€ m	€ m
Research and development expenses according to consolidated income statement	552	436
Government and third parties grants	64	49
Capitalized development costs (IAS 38)	20	7
<b>Research and development expenses before grants and IAS 38</b>	<b>636</b>	<b>492</b>

Research and development expenses before grants and IAS 38 (capitalized development costs) totaled €636m (prior year: €492m). Representing 12% of revenue and above the prior-year level (prior year: 10%), this testifies to the ZEISS Group's continued strong focus on innovation.

### Development of earnings

Earnings before interest, taxes, depreciation and amortization (EBITDA) amounted to €985m in the reporting year (prior year: €819m).

Earnings before interest and taxes (EBIT) of €770m (prior year: €615m) with an EBIT margin of 14% (prior year: 13%) were generated in the reporting year. This development is attributable to the growth in revenue in the reporting year as well as to improvements in productivity. The EBIT margin forecast in the prior year was reached.

	2016/17	2015/16	2014/15
	€ m	€ m	€ m
EBITDA	985	819	572
» EBITDA margin as a %	18	17	13
EBIT	770	615	369
» EBIT margin as a %	14	13	8

The financial result improved by €54m compared to the prior year to minus €13m (prior year: minus €67m). The interest result amounted to minus €31m in the reporting period (prior year: minus €56m). The other financial result increased by €30m to €19m (prior year: minus €11m). This is essentially attributable to measurement effects in connection with hedge accounting and to the development of the exchange rates important to ZEISS in the reporting year.

The tax expense for fiscal year 2016/17 totaled €196m (prior year: €144m), which resulted in a group tax rate of 26% (prior year: 26%). The tax rate is mainly the result of the deferred tax assets recognized through profit or loss on unused tax losses on account of improved business developments in the reporting year, reducing the tax expense accordingly.

The consolidated profit thus came to €561m in the reporting year (prior year: €404m).

## **Economic value added generated**

ZEISS measures value added generated using the Economic Value Added (EVA®) indicator. This is the internal measure of the company's success. In fiscal year 2016/17, EVA® amounted to €412m (prior year: €310m). ZEISS therefore once again achieved considerable value added and continued the positive development of prior years. EVA® is calculated as the operating profit after taxes less cost of capital. The internal interest rate used to determine weighted average of cost of capital ranges between 6.5% and 10%, depending on the business involved.

## **NON-FINANCIAL KEY PERFORMANCE INDICATORS**

### **Responsibility**

Responsibility has a long tradition at ZEISS. As a company operating under the umbrella of the Carl Zeiss Foundation (Carl Zeiss Stiftung), ZEISS has been implementing the stipulations anchored in the Foundation Statute for over 125 years and constantly develops them further in the present context. Dividend distributions to the Carl Zeiss Foundation (Carl Zeiss Stiftung) are used within the framework of its aims to promote in particular scientific and mathematical studies in research and teaching.

### **Employees**

The total headcount of the ZEISS Group increased as of 30 September 2017 by 1,512 worldwide to 26,945 (prior year: 25,433). The largest increase in the number of employees was seen in Germany, where it rose by 569 to 11,339 (prior year: 10,770).

ZEISS is an international company. Around 58% (prior year: 58%) of the ZEISS workforce – equivalent to 15,606 employees (prior year: 14,663) – work outside Germany.

Diversity is a prerequisite for innovation, which is why it is actively supported and strengthened by ZEISS. In the reporting year, for example, ZEISS signed the Diversity Charter, an initiative to promote diversity in companies and institutions.

The Group's research and development departments have 2,872 employees – 11% of the workforce – working on new solutions and technologies for the optics and optoelectronics industries (prior year: 2,551 employees, 10%).

Qualifying employees for their work is a prerequisite for innovation, which is why training and further education has a high priority at ZEISS. As of the reporting date, the Group had 362 apprentices and trainees in Germany (prior year: 375). In order to inspire talented young people to join ZEISS in the long term, the company launched its internship retention program JOIN in the reporting year. The aim of the program is to retain the best interns in the company. Every year, around 480 trainees complete a technical or business internship at the German locations.

The further training of employees and leadership development is another focal point of ZEISS. Employees can select a large number of courses in the internal qualification program. Since the beginning of fiscal year 2016/17, it has been available for the first time as a fully digitalized "Group Learning Program." In addition, ZEISS supports off-the-job training and personnel development measures.

ZEISS promotes occupational health and safety through comprehensive measures. Corporate healthcare management at ZEISS contributes significantly to creating a modern and sustainable working environment.

The focus is on the health, motivation and performance of employees. The central fields of activity are the design of the workplace and the development of health competence among employees.

In fiscal year 2016/17, ZEISS updated and extended the performance indicators for recording accidents in the workplace in order to monitor not only the frequency but also the severity of work-related accidents. The aim is to derive and implement suitable preventive measures.

### **Societal and social engagement**

ZEISS assumes responsibility and an active role in society. The Group supports educational measures and scientific projects and institutions as well as selected social and cultural initiatives and facilities at company locations. ZEISS also supports professional associations involved in nature conservation activities and educational programs for children and adults.

Millions of people around the world are threatened by preventable blindness or cannot access medical care. ZEISS sets new standards in the healthcare sector with solutions in Vision Care and Medical Technology and thus promotes medical progress. The aim is to contribute to an improved quality of life for patients in all areas in which ZEISS is active. ZEISS has been cooperating for years with non-governmental organizations as well as giving donations in money and in kind to ensure that medical care and the training of medical professionals are also available to people in developing and emerging countries.

In addition, dividend distributions to the Carl Zeiss Foundation (Carl Zeiss Stiftung) are used within the framework of its aims to promote in particular scientific, engineering and mathematical studies in research and teaching.

### **Environment**

ZEISS attaches great importance to the sustainable and economical use of resources as well as environmental protection. Sustainability is also a key consideration – from the development and manufacture to the packaging and shipment, through to disposal of its products. The Group has also defined corresponding requirements for its units and suppliers.

Furthermore, all the major manufacturing sites worldwide are certified to the international environmental management standard ISO 14001. ZEISS spent around €13m on environmental protection measures over the past year.

ZEISS launched its initiatives for the efficient handling of energy several years ago. All business units of the ZEISS Group in the European Union have been certified to the globally recognized energy management standard ISO 50001.

### **Products and value chain**

For over 170 years, ZEISS has been synonymous with innovation. The specific ownership structure of ZEISS ensures the scope required to enable investments in new developments and solutions in the long term. These are the basis for the sustained business success of ZEISS.

ZEISS cooperates with global networks of renowned universities, research institutes and specialists in developing new technologies and solutions.

Optical technologies are key technologies of the future. ZEISS therefore invests in innovations and secures its innovative advantage by means of patents. As of the reporting date, ZEISS held about 8,400 patents worldwide (prior year: about 7,800). In the reporting year, the Group applied for new patents for approx. 500 inventions (prior year: approx. 450).

Suppliers and business partners around the world make an important contribution to the ZEISS products and services and thus also have an important influence on the sustainability performance of ZEISS. The company demands that its new and principal suppliers recognize the Code of Conduct of the Electronic Industry Citizenship Coalition (EICC) and implement ongoing measures to meet these requirements. The internationally recognized Code of Conduct is based on the UNO guiding principles for business and human rights and was derived from international labor and environmental standards. In fiscal year 2016/17, ZEISS introduced a risk-based methodology for carrying out risk assessment and on-site audits on sustainability issues.

### **Integrity and compliance at ZEISS**

It is vital to the reputation of the company that the business partners, customers, public authorities, the general public as well as competitors have confidence in the responsible, law-abiding and ethical behavior of all ZEISS employees. Therefore, ZEISS approved a Code of Conduct in 2007 that is valid throughout the world. It specifies and explains the general rules of behavior for various areas of our business activities. The Code of Conduct was updated in the reporting year. ZEISS explicitly recognizes the International Labor Organization's (ILO) international labor standards and now describes the basic rules more clearly. The Group has also implemented framework conditions with the ZEISS Compliance Management System to ensure compliance with the law, regulatory requirements as well as internal corporate guidelines.

### **RISK AND OPPORTUNITY REPORT**

Groups with global operations face a large number of entrepreneurial risks and opportunities that can have a sustained impact on planned results of operations. The assessment of opportunities and risks and conscientious handling of entrepreneurial uncertainty are an important part of corporate governance and sustainable operating policies at ZEISS.

#### **Risk management system**

The central risk management system at ZEISS stipulates uniform rules and processes to detect, assess and manage risks at an early stage. The key objective is to identify potential risks and minimize their negative effects.

In the business groups, risk management coordinators apply the central policies and procedures. The management of the business groups and strategic business units detects, manages and reports on operating and strategic risks. Overall responsibility lies with the Group's Executive Board, which regularly assesses possible scenarios, risks and opportunities and their management at group level. While the Executive Board examines the appropriateness of the risk management system, the Supervisory Board's Audit Committee monitors the effectiveness of the risk management system.

#### **Internal control system**

The internal control system (ICS) of ZEISS is based on the COSO Enterprise Risk Management Model (COSO ERM model). It integrates organizational, process-related and technical measures to ensure proper operating activities and correct reporting. This integrated enterprise risk management system covers strategic and operational risks, i.e. it does not merely monitor financial risks. For central processes, there are defined key risks and defined control mechanisms, which are evaluated with regard to their effectiveness.

The Group's Executive Board ensures that an adequate and effective internal control system is in place and that it is continuously enhanced. The Supervisory Board's Audit Committee monitors the effectiveness of the internal audit function, risk management and the internal control system as well as the financial reporting process.

### **Strategic and operational risks**

ZEISS systematically analyzes and evaluates risks. Special emphasis is placed on potential economic effects and on probability of occurrence. Risks are thus quantified and classified, and the risk-bearing capacity is identified. Due to the broad portfolio and the Group's global presence, the strategic and operational risks are spread broadly.

#### **General risks and opportunities**

ZEISS regularly checks for risks and opportunities that can arise from changes in markets and within the supplier and customer environment, consolidation within the industry and technological change and general societal demands on companies. In addition, ZEISS analyzes economic, legal and political developments or economic sanctions in the economic regions relevant for the Group and evaluates possible scenarios. Opportunities and risks that could arise from major natural disasters are also evaluated. The international orientation, sustainable operating policies and balanced ZEISS portfolio help spread the risk. However, the introduction of trade barriers and increasing economic uncertainties could make conditions for ZEISS more difficult.

#### **Innovation risks and opportunities**

The results of operations and reputation of ZEISS are heavily dependent on the development of innovative products and solutions. New trends and current findings from science and research can give rise to abrupt technology shifts, new customer requirements and also make new business models necessary. In order to take advantage of these opportunities at an early stage and to minimize the probability of occurrence and the economic impact of the risk, ZEISS cooperates with research institutes, engages in development partnerships including participations and also makes targeted technology acquisitions. ZEISS Digital Innovation Partners was founded in fiscal year 2016/17 to support the segments in exploiting the opportunities offered by digitalization for customers and partners.

#### **Personnel risks and opportunities**

Demographic change and the changing requirements of digitalization, as well as the differing training and qualifications standards around the globe, are creating new challenges when it comes to filling job vacancies. Increasing demands on potential employers are becoming noticeable. These give rise to moderate economic risks. ZEISS counters these with a global recruitment strategy and a consistent recruitment process, which leads to a low probability of occurrence. The Group offers a broad spectrum of challenges and opportunities for development to attract professionals and managers and to retain them in the long term. In addition, ZEISS also offers a variety of location-based initiatives and social benefits, including health promotion programs and models for reconciling work and family life.

#### **Risks and opportunities in procurement and production**

ZEISS ensures compliance with national and international standards, laws and regulations by means of an integrated management system that addresses the issues of quality, environmental protection, occupational health and safety, and energy management. The regulatory requirements for commodities and materials, the growing complexity of purchased parts and the limited number of suppliers (single source) for some technologies give rise to higher costs and a moderate procurement risk. In addition, rising energy prices and capacity bottlenecks are also driving up costs. To minimize this risk, ZEISS conducts systematic supplier audits that also

include social standards and environmental aspects. EICC compliance is also regularly monitored in the supply chain. ZEISS is continuously working to stabilize supply chains and to reduce the dependence on individual suppliers and review partners' business practices, as well as to minimize the associated economic repercussions and impact on the company's reputation. ZEISS systematically leverages opportunities that arise from bundling procurement activities.

#### **Risks and opportunities of information technology**

ZEISS constantly examines and utilizes the opportunities of digitalization in order to offer customers additional and enhanced services. At the same time, the Group constantly updates its existing information technology (IT) systems and its IT protection and security systems. Some ZEISS IT systems are operated by external partners. For these service providers, the Group has defined and contractually agreed high technical and legal standards regarding the hardware and software deployed as well as process monitoring and data security. ZEISS continuously monitors the implementation of and compliance with these standards. The probability of IT risks occurring is estimated to be low. However, the economic impact can be considerable.

#### **Risks and opportunities from acquisitions and investments**

Acquisitions or investments offer ZEISS the opportunity to enlarge its competencies and technology portfolio or to increase its access to regional markets. They also help to open up markets faster and accelerate processes. ZEISS systematically checks the associated risks and opportunities. Due diligence reviews aimed at assessing the business development that can be expected are a key element prior to closing transactions. The economic impact and probability of occurrence are therefore low.

Goodwill totaling €589m from acquisitions is shown in the consolidated statement of financial position. This goodwill is subject to regular impairment tests. It cannot be ruled out that impairment losses on goodwill may need to be recognized on account of changes in economic conditions, business models or technologies.

#### **Legal risks, patents and intellectual property**

ZEISS safeguards its technologies and products through a comprehensive industrial property rights strategy. If ZEISS patent and brand rights are infringed by third parties, the Group takes legal steps in order to counter the associated high economic risk. The probability of such cases occurring is low.

When developing new products and technologies, ZEISS systematically checks whether the rights of a third party could be affected, develops non-protected solutions, if necessary, and acquires the requisite licenses and rights, or seeks other solutions by legal contract. Due to the complexity of possible industrial rights and the increased activity of institutional patent assertion entities there is a moderate risk of litigation with a moderate economic risk. Appropriate provision is made in the statement of financial position for any claims arising from unclear patent situations.

There is no pending litigation that poses any risk to the continued existence of ZEISS at present. In the reporting year, Nikon initiated legal proceedings against ZEISS for alleged patent infringements. ZEISS categorically rejects the allegations and has itself filed patent infringement suits against Nikon.

#### **Financial risks and opportunities**

The liquidity risk of the ZEISS Group represents the risk that Carl Zeiss AG or subsidiaries may not be able to meet their financial obligations (e.g. to repay financial liabilities or make interest payments). ZEISS has sufficient liquidity reserves in the form of cash and lines of credit. The Group's investment strategy is conservative: the focus here is on security and short-term availability. In addition, ZEISS ensures that the investments are broadly diversified.

Credit risk stems from an adverse development in the economic conditions of the company's borrowers or counterparties. On the one hand, this gives rise to the risk of default, in full or in part, on contractually agreed payments or performance and, on the other, potentially a need to recognize credit-risk-related impairment losses on financial instruments. Risks of default are limited by choosing counterparties with excellent credit ratings given by external rating agencies. Concentration risks are limited and managed by generally conducting transactions with various banks.

On account of its global orientation, the ZEISS Group is exposed to financial market price risks in its operations and the financial results and cash flows reported. This includes currency and interest rate risks. The associated opportunities and risks of the ZEISS Group are managed centrally. The Group uses defined risk strategies to minimize risks resulting from changes in exchange rates, interest rates or the value of assets. The ZEISS Group exclusively uses derivative financial instruments to hedge interest rate and currency risks. For this purpose, it enters into standard currency options and forward exchange contracts. These cover the underlying goods and services transactions of group entities and non-derivative financial transactions (hedged transactions).

Overall, the ZEISS Group's financial risks are classified as low with a low probability of occurrence.

In the context of pension obligations, high risks also arise from the increasing life expectancy of the beneficiaries, from general interest rate developments and from the obligation to regularly adjust the amount of the pensions paid. The existing pension agreements could give rise to risks with regard to equity. The provisions negatively impact the statement of financial position and could therefore restrict scope for strategic action. In light of this, the pension rules were revised in the past and adapted to the changed conditions on the financial market. By doing this, ZEISS is countering the risks that could arise in particular from the development of interest rates. The new pension rules came into effect as of the beginning of fiscal year 2015/16.

ZEISS has transferred the funds to cover pension obligations toward active employees in Germany to a contractual trust arrangement (CTA). The investment strategy is based on long-term commitments.

Further financial risks and risks relating to the statement of financial position can in principle arise from changes in accounting standards.

### **Market risks and opportunities**

The broad and balanced ZEISS business portfolio helps spread risk. The search for opportunities to expand the portfolio horizontally or vertically results in further market opportunities and a broader risk diversification. The economic risk arising from the differing development of the segments is classified as moderate with a moderate probability of occurrence. In order to further reduce both the probability of occurrence and the economic risk, ZEISS has launched programs designed to increase competitiveness in certain areas.

The volatility and increasing consolidation of the semiconductor sector entails risks and opportunities for the Semiconductor Manufacturing Technology segment, to which ZEISS must adapt in a flexible manner. The segment is well positioned for changing market and technology requirements thanks to an optimized organizational structure. In particular, the use of EUV lithography for volume production of semiconductor chips offers considerable growth opportunities while also presenting high inherent technological risks for the business group. ZEISS therefore collaborates closely with its strategic partner ASML and other development partners in order to jointly steer this future-oriented technology to success. The extremely challenging development and production preparation of the next generation of EUV lithography will be driven forward jointly by ZEISS and ASML, who, for this reason, intensified their long-standing and successful partnership in fiscal year 2016/17 with ASML acquiring a non-controlling interest of 24.9% in Carl Zeiss SMT GmbH & Co. KG.

The Research & Quality Technology segment is exposed to risks arising from the dependence on the capital goods industry and particularly the automotive and the associated supplier industry and their willingness to invest, as well as research expenditure in the academic sector. These are reduced by the continuous development of new application areas and by the stringent expansion of the business group's business with customer services. Opportunities still arise for the segment from increasingly networked production processes (Smart Production), from the pursuit of increased productivity as well as from its positioning as a one-stop provider and the expansion of local value chains in the key economic regions.

The business development in academia depends heavily on government budgets for education and research, and on an innovative product portfolio. The segment is therefore improving its product portfolio to tap new market and customer potential, also by integrating digital solutions. Increasing industrial requirements, new materials and the growing scarcity of resources call for new analytical methods in microscopy and offer new sales opportunities. Megatrends such as the aging population are triggering additional growth opportunities in the area of research and routine biomedical applications; for example, in pharmaceuticals research or in diagnosis of diseases.

In the Medical Technology segment, political and regulatory decisions can have a long-term effect on the reimbursement of costs for medical treatment and thus on willingness to invest in new therapy systems. Cuts in public budgets can have similar consequences. Furthermore, new product launches can be delayed or even rejected due to changes in product approval requirements. As a matter of principle, patients may be harmed due to malfunctions or misuse of medical devices or may be injured due to improper handling of personal data. This can result in substantial litigation costs and can cause long-term damage to the company's reputation. The steadily growing world population and rising life expectancy, which is likely to lead to increased demand for medical technology, are giving rise to growth opportunities for the Medical Technology segment. Further growth potential is inherent in the rapidly developing economies due to the growing demand for basic medical care.

Within the Vision Care/Consumer Products segment, the Vision Care business group is exposed to risks arising from fundamental changes in the eyeglass market, ongoing consolidation in the industry and the concentration of customer structures. Other risks include the persistent fall in the price of eyeglass lenses, as well as competitors who use online sales channels or deploy new technologies to establish their own production capacity. Opportunities continue to be offered by the growing importance of the ZEISS brand for consumers, freeform technology and the associated new business fields, optimization of the value chain and new business models resulting from digitalization. The Consumer Optics business group is subject to risks due to increasing competitive and price pressure. Further risks may arise from substitution effects resulting from a change in consumer behavior towards the use of more software for image processing and away from optical quality. This could give rise to idle capacity at manufacturing sites. Opportunities can arise from new developments and from sector and technology trends in this market. The licensing business in the market for camera lenses depends on the attractiveness of the ZEISS brand for partners of the business group. ZEISS counters this risk by means of a consistent brand strategy.

#### **Overall statement on the risks faced by the company**

When this report was prepared, no risks were discernible that could jeopardize the ability of the ZEISS Group to continue as a going concern. As a result of the available liquidity and available equity, the risk-bearing capacity has again increased compared with the prior year. The Executive Board believes that the Group has a solid foundation for further development and uses a systematic strategy and planning process to provide the resources required in order to leverage the opportunities.

## SUBSEQUENT EVENTS

ZEISS will reorganize the Consumer Products business. Processes and organizational structures will be simplified and aligned even more consistently with the needs of customers and their expectations. In this context, necessary reorganization measures are also required to optimize the cost structure.

There were no additional significant events after the end of the fiscal year.

## REPORT ON EXPECTED DEVELOPMENTS

### **Future conditions of business development**

Moderate economic growth is currently expected to continue for fiscal year 2017/18. Emerging economies will continue to provide significant growth impetus in the future, while growth rates in the industrialized countries will remain almost unchanged. According to forecasts, economic growth in the USA will remain at a similar level, but will decline moderately in Japan and Europe. Growth in the emerging markets of Asia is expected to continue, with slightly flattening growth rates in China and slightly rising growth rates in India. Growth in Latin America is increasing again, partly as a result of stronger growth following the recession in Brazil.

Prospects for growth of the global economy are currently scarcely clouded by possible risk factors. Credit-financed investments provide growth impetus, but increasing indebtedness also harbors risks. In addition, impairments due to protectionist and politically motivated measures cannot be ruled out. The unpredictable impact of Brexit, a possible escalation in the Near and Middle East, Ukraine and North Korea as well as ongoing structural problems could negatively impact on investment activity of industry and the public sector.

### **Expected development of the markets and industries relevant for ZEISS**

#### ***Semiconductor Manufacturing Technology***

ZEISS assumes that the global semiconductor market will grow moderately in fiscal year 2017/18. The semiconductor industry is being boosted by the worldwide digitalization of numerous industries. Due to increasing expenditure in the equipment industry for chip fabs, the Group is also expecting growth in the relevant market for the segment in fiscal year 2017/18. Due to the increased investments of chip manufacturers in production equipment, ZEISS expects healthy demand in the DUV business and further orders for the current generation of EUVs. As always in the semiconductor sector, further development is characterized by great uncertainty.

#### ***Research & Quality Technology***

The Group expects business development in industrial metrology in an increasingly competitive market environment to be stable overall. ZEISS anticipates rather cautious investment behavior for the USA - while there are positive indicators for business in EMEA and increasingly also in Asia. ZEISS also expects the business group's extensive global service business to continue to grow. This growth will be significantly supported by an additional expansion of the software business by means of cross-industry collaborations and solution providers for secure data transfers, among others.

For the microscopy business, it is apparent that the public subsidies for research, which are on the whole restrictive, will result in stagnating global growth in the academic environment. Positive impetus is expected for the industrial application of microscopes. The Group expects that this robust market environment will continue.

### **Medical Technology**

Medical devices and medical equipment will remain an attractive business field in the health care sector. ZEISS expects that growth drivers in the market for the Medical Technology segment, such as demographic trends and population growth as well as rising demand from the rapidly developing economies, will continue to exist. They will be supplemented by new technologies and applications, particularly in the area of minimally invasive surgery, which will contribute to growth of the industry. From the customer's perspective, a better cost-benefit balance of medical technology products as well as increasing digitalization and systems integration are playing a key role in day-to-day work in doctors' offices and hospitals.

### **Vision Care/Consumer Products**

For the business of the Vision Care/Consumer Products segment, ZEISS expects global growth to remain stable. Major drivers of the development of the markets for the Vision Care business group are demographic trends, increasing income in the rapidly developing economies and rising demand for individualized precision eyeglass lenses. ZEISS expects the increasing digitalization in lens fitting and production, logistics, marketing and customer service to result in major changes. ZEISS expects the Consumer Optics business group to face tougher competition. In addition, the Group assumes that the US market will recover. With the size of the market for cine lenses set to remain constant, increased competitive pressure is expected due to the entry of new competitors from Asia.

### **Overall statement on anticipated development**

When these consolidated financial statements for 2016/17 were prepared, moderate global economic growth with differences between the various regions was becoming apparent. In light of the global economic development forecasts currently available, the Executive Board of Carl Zeiss AG regards the goals planned for fiscal year 2017/18 as challenging. Given initial signs of increasing market uncertainty, ZEISS expects less dynamic growth in some of the rapidly developing economies compared to prior years, with a slight decrease expected for China. Thanks to the solid positioning of the segments in their respective markets, which ZEISS established and expanded in the past, mainly through its innovative strength, the Group anticipates slight increases in revenue and 12% return on EBIT for fiscal year 2017/18.

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# Consolidated Income Statement

for the period from 1 October 2016 to 30 September 2017

	Note	2016/17	2015/16
		€ k	€ k
<b>Revenue</b>	7	<b>5,347,804</b>	<b>4,880,839</b>
Cost of sales		2,606,723	2,533,789
<b>Gross profit</b>		<b>2,741,081</b>	<b>2,347,050</b>
» Sales and marketing expenses		1,109,242	971,937
» General administrative expenses		324,956	328,920
» Research and development expenses		552,118	435,725
» Other income	8	20,200	9,328
» Other expenses	9	4,808	4,972
<b>Earnings before interest and taxes (EBIT)</b>		<b>770,157</b>	<b>614,824</b>
» Share of profit/loss from investments accounted for using the equity method		0	-810
» Interest income	10	7,616	11,529
» Interest expenses	10	39,017	67,134
» Other financial result	10	18,789	-10,955
<b>Financial result</b>		<b>-12,612</b>	<b>-67,370</b>
<b>Earnings before taxes (EBT)</b>		<b>757,545</b>	<b>547,454</b>
» Income taxes	11	196,175	143,610
<b>Consolidated profit/loss</b>		<b>561,370</b>	<b>403,844</b>
» thereof profit/loss attributable to non-controlling interests		72,877	31,471
» thereof profit/loss attributable to the stockholder of the parent company		488,493	372,373

# Consolidated Statement of Comprehensive Income

for the period from 1 October 2016 to 30 September 2017

	Note	2016/17	2015/16
		€ k	€ k
<b>Consolidated profit/loss</b>		<b>561,370</b>	<b>403,844</b>
Earnings to be reclassified:			
» Currency translation differences		-62,809	6,917
» Gains/losses from available-for-sale financial assets		-39	442
» Gains/losses from cash flow hedges		391	8,300
» Deferred income tax		11	-126
Earnings not to be reclassified:			
» Remeasurement of defined benefit plans		368,805	-450,610
» Deferred income tax		-91,279	118,840
<b>Other comprehensive income (after taxes)</b>		<b>215,080</b>	<b>-316,237</b>
<b>Total comprehensive income</b>		<b>776,450</b>	<b>87,607</b>
» thereof profit/loss attributable to non-controlling interests		87,015	23,164
» thereof profit/loss attributable to the stockholder of the parent company		689,435	64,443

# Consolidated Statement of Financial Position

as of 30 September 2017

Assets	Note	30 SEP 17	30 SEP 16
		€ k	€ k
<b>Non-current assets</b>			
» Intangible assets	12	776,762	782,065
» Property, plant and equipment	13	973,395	978,686
» Trade and other receivables	23	35,879	30,640
» Other non-current financial assets	14	812,999	142,926
» Other non-current non-financial assets	15	6,499	6,903
» Deferred taxes	11	616,435	705,870
		<b>3,221,969</b>	<b>2,647,090</b>
<b>Current assets</b>			
» Inventories	16	1,275,149	1,118,173
» Trade and other receivables	23	1,090,623	969,684
» Other current financial assets	14	1,054,661	310,363
» Tax refund claims		12,250	25,370
» Other current non-financial assets	15	99,924	88,516
» Cash and cash equivalents	17	562,036	498,733
		<b>4,094,643</b>	<b>3,010,839</b>
		<b>7,316,612</b>	<b>5,657,929</b>
<b>Equity and liabilities</b>			
		30 SEP 17	30 SEP 16
		€ k	€ k
<b>Equity</b>			
» Issued capital		120,000	120,000
» Capital reserves		52,770	52,770
» Retained earnings		3,242,146	1,851,412
» Other reserves		-636,768	-865,147
» Non-controlling interests		651,028	257,320
		<b>3,429,176</b>	<b>1,416,355</b>
<b>Non-current liabilities</b>			
» Provisions for pensions and similar obligations	19	1,184,589	1,718,558
» Other non-current provisions	20	212,927	197,619
» Non-current financial liabilities	21	206,528	230,245
» Other non-current non-financial liabilities	22	34,062	38,045
» Deferred taxes	11	55,277	60,892
		<b>1,693,383</b>	<b>2,245,359</b>
<b>Current liabilities</b>			
» Current provisions	20	275,417	247,464
» Current financial liabilities	21	136,780	127,639
» Trade payables	23	362,067	297,158
» Current income tax payables		25,340	33,695
» Other current non-financial liabilities	22	1,394,449	1,290,259
		<b>2,194,053</b>	<b>1,996,215</b>
		<b>7,316,612</b>	<b>5,657,929</b>

# Consolidated Statement of Changes in Equity

for fiscal year 2016/17<sup>1</sup>

	Issued capital	Capital reserves	Retained earnings	Other reserves					Equity attributable to the stockholder of the parent company	Non-controlling interests	Consolidated equity
				from currency translation	from the remeasurement of defined benefit plans	from available-for-sale financial assets	from cash flow hedges				
	€ k	€ k	€ k	€ k	€ k	€ k	€ k	€ k	€ k	€ k	€ k
<b>1 October 2015</b>	<b>120,000</b>	<b>52,770</b>	<b>1,493,731</b>	<b>51,737</b>	<b>-600,016</b>	<b>-247</b>	<b>-8,691</b>	<b>1,109,284</b>	<b>247,908</b>	<b>1,357,192</b>	
» Consolidated profit/loss	0	0	372,373	0	0	0	0	372,373	31,471	403,844	
» Other comprehensive income	0	0	0	6,723	-323,269	316	8,300	-307,930	-8,307	-316,237	
<b>Total comprehensive income</b>	<b>0</b>	<b>0</b>	<b>372,373</b>	<b>6,723</b>	<b>-323,269</b>	<b>316</b>	<b>8,300</b>	<b>64,443</b>	<b>23,164</b>	<b>87,607</b>	
Dividends	0	0	-12,500	0	0	0	0	-12,500	-13,176	-25,676	
Changes in basis of consolidation	0	0	0	0	0	0	0	0	0	0	
Other changes	0	0	-2,192	0	0	0	0	-2,192	-576	-2,768	
<b>30 September 2016</b>	<b>120,000</b>	<b>52,770</b>	<b>1,851,412</b>	<b>58,460</b>	<b>-923,285</b>	<b>69</b>	<b>-391</b>	<b>1,159,035</b>	<b>257,320</b>	<b>1,416,355</b>	
» Consolidated profit/loss	0	0	488,493	0	0	0	0	488,493	72,877	561,370	
» Other comprehensive income	0	0	0	-56,820	257,399	-28	391	200,942	14,138	215,080	
<b>Total comprehensive income</b>	<b>0</b>	<b>0</b>	<b>488,493</b>	<b>-56,820</b>	<b>257,399</b>	<b>-28</b>	<b>391</b>	<b>689,435</b>	<b>87,015</b>	<b>776,450</b>	
Dividends	0	0	-25,000	0	0	0	0	-25,000	-35,394	-60,394	
Changes in basis of consolidation	0	0	0	0	0	0	0	0	3,618	3,618	
Other changes	0	0	927,241	466	26,971	0	0	954,678	338,469	1,293,147	
<b>30 September 2017</b>	<b>120,000</b>	<b>52,770</b>	<b>3,242,146</b>	<b>2,106</b>	<b>-638,915</b>	<b>41</b>	<b>0</b>	<b>2,778,148</b>	<b>651,028</b>	<b>3,429,176</b>	

<sup>1</sup> For more information on the changes in equity, please refer to note 18 of the notes to the consolidated financial statements

# Consolidated Statement of Cash Flows

for the period from 1 October 2016 to 30 September 2017

	2016/17	2015/16
	€ k	€ k
Consolidated profit/loss	561,370	403,844
Amortization, depreciation and impairment net of reversals of impairment losses	214,876	203,156
Share of profit/loss from investments accounted for using the equity method	0	810
Changes in provisions for pensions and similar obligations	9,525	2,236
Amounts allocated to the contractual trust arrangement and other plan assets outside Germany	-168,417	-218,316
Changes in other provisions	47,760	27,859
Gain/loss from the disposal of intangible assets and property, plant and equipment	352	748
Gain/loss from the disposal of current securities	-178	319
Changes in inventories	-187,172	-35,487
Changes in trade receivables	-159,278	-15,415
Changes in deferred taxes	-14,533	-39,527
Changes in other assets	-40,983	-8,771
Changes in trade payables	70,884	66,760
Changes in current accruals	61,446	23,778
Changes in advances received	44,489	17,706
Changes in other liabilities	4,892	-4,564
<b>Cash flows from operating activities</b>	<b>445,033</b>	<b>425,136</b>
Proceeds from the disposal of intangible assets and property, plant and equipment	15,042	28,032
Purchases of intangible assets and property, plant and equipment	-231,404	-190,873
Net cash outflow from investments in financial assets including fixed-term investments and securities maturing in >90 days	-1,364,979	-191,803
Net cash inflow/outflow for the acquisition/sale of shares in affiliates	939,352	-2,709
<b>Cash flows from investing activities</b>	<b>-641,989</b>	<b>-357,353</b>
Dividend paid to Carl Zeiss Foundation (Carl Zeiss Stiftung)	-25,000	-12,500
Payments to non-controlling interests	-15,657	-13,176
Proceeds from (financial) loans	11,894	15,398
Repayments of (financial) loans and bonds	-26,468	-196,789
Proceeds from capital increase at Carl Zeiss Meditec AG (net)	315,036	0
Payments for costs in connection with the capital increase at Carl Zeiss Meditec AG	-1,575	0
<b>Cash flows from financing activities</b>	<b>258,230</b>	<b>-207,067</b>
Changes in cash and cash equivalents	61,274	-139,284
Changes in cash and cash equivalents from exchange rate movements and changes in the basis of consolidation	2,029	-859
Cash and cash equivalents as of 1 October	498,733	638,876
<b>Cash and cash equivalents as of 30 September</b>	<b>562,036</b>	<b>498,733</b>

## Additional information on the statement of cash flows

	2016/17	2015/16
	€ k	€ k
Payments of		
» Income taxes	218,194	135,675
» Interest	12,298	18,846
» Dividends	40,657	25,676
Proceeds from		
» Income taxes	23,644	7,312
» Interest	4,839	6,666
» Dividends	977	433

# Notes to the Consolidated Financial Statements

for fiscal year 2016/17

## BASIS OF PRESENTATION

### 1 General principles

Carl Zeiss AG is a non-listed stock corporation incorporated under German law and parent company of the ZEISS Group, headquartered at Carl-Zeiss-Strasse 22, 73447 Oberkochen (Germany), and has been entered in the commercial register of Ulm district court (HRB 501555). The Carl Zeiss Foundation (Carl Zeiss Stiftung), Heidenheim an der Brenz and Jena, is the sole stockholder of Carl Zeiss AG.

ZEISS is an internationally leading technology enterprise operating in the optics and optoelectronics industries. The ZEISS Group develops, produces and sells semiconductor manufacturing equipment, measuring technology, microscopes, medical technology, eyeglass lenses as well as camera and cine lenses, binoculars and planetarium technology. ZEISS comprises 4 segments: Semiconductor Manufacturing Technology, Research & Quality Technology, Medical Technology and Vision Care/Consumer Products.

Carl Zeiss AG exercises the option afforded by Sec. 315a (3) German Commercial Code (HGB) which, based on the member state option set out in the EU Regulation dated 19 July 2002, also allows companies not geared to the capital market to prepare their consolidated financial statements in accordance with International Financial Reporting Standards with exempting effect as defined by this regulation.

The accompanying consolidated financial statements of Carl Zeiss AG, comprising the consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of financial position, the consolidated statement of changes in equity, the consolidated statement of cash flows and the notes to the consolidated financial statements, have been prepared in accordance with International Financial Reporting Standards (IFRSs) and the interpretations of the IFRS Interpretations Committee, as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315a (1) HGB. All pronouncements of the International Accounting Standards Board (IASB) whose adoption is mandatory have been considered.

The consolidated financial statements are presented in euros (€). Unless otherwise specified, all amounts are stated in thousands of euros (€ k) and rounded in line with common business practice.

In order to improve clarity and transparency, individual items have been combined in the consolidated statement of financial position and the consolidated income statement and broken down and explained separately in these notes.

The consolidated financial statements and group management report prepared as of 30 September 2017 were authorized for issue to the Supervisory Board by the Executive Board on 22 November 2017.

### 2 Basis of consolidation

Subsidiaries, associates, joint ventures and special purpose entities are included in the consolidated financial statements. Subsidiaries and special purpose entities are entities that are controlled directly or indirectly and are consolidated in full. Control is the power to govern the financial and operating policies of another entity, directly or indirectly, such that the Group obtains benefits from the entity's activities. Associates are entities over which Carl Zeiss AG exercises significant influence and that are neither subsidiaries nor joint ventures. Associates and joint ventures are accounted for in the consolidated financial statements using the equity method.

The consolidated financial statements contain 33 (prior year: 33) fully consolidated German entities (including Carl Zeiss AG) and 103 (prior year: 103) fully consolidated entities in other countries. The entities are generally included in the consolidated financial statements from the date on which control is obtained.

A special fund was included in the consolidated financial statements as a structured entity because the fund activities are prescribed by the investment strategy defined by Carl Zeiss Financial Services GmbH. Carl Zeiss Financial Services GmbH is solely entitled to the earnings generated by the fund.

The entities included in consolidation and shareholdings are all contained in the list of shareholdings in accordance with Sec. 313 (2) HGB.

The number of fully consolidated entities changed as follows in the reporting period:

	Germany	Other countries	Total
1 October 2016	33	103	136
Disposals in the reporting period	0	1	1
Additions in the reporting period	0	1	1
<b>30 September 2017</b>	<b>33</b>	<b>103</b>	<b>136</b>

### **Disposals from the basis of consolidation**

The following entity was removed from the basis of consolidation in the reporting period:

- » Carl Zeiss NTS Pte. Ltd., Singapore (Singapore)
- (wound up as of 4 November 2016)

The disposal did not have any impact on the net assets, financial position and results of operations of the ZEISS Group.

### **Additions to the basis of consolidation**

The following entity was included in the consolidated financial statements for the first time:

- » Ophthalmic Laser Engines, LLC, Lafayette, Colorado (USA)

On 24 February 2017, Carl Zeiss Meditec Inc., Dublin, California (USA), acquired 52% of the shares in Ophthalmic Laser Engines, LLC, Lafayette, Colorado (USA) ("OLE"). The acquisition of the shares primarily serves to develop and manufacture an akinetic radiation source for the field of ophthalmology as well as the associated OCT system elements.

The provisional purchase price was €19.1m and comprises a fixed component of €18.4m and a performance-based component of €0.7m. The performance-based components are based on a profit distribution deviating from the shares in favor of the buyer for the first 5 years and will be paid over the next 5 years in accordance with the subsequent earnings.

At the time of publishing the consolidated financial statements of Carl Zeiss AG as of 30 September 2017, the purchase price had not yet been allocated to the assets and liabilities of the acquired entity because there was still some information outstanding about the assets and liabilities. The provisional fair values of the identifiable assets and liabilities as of the acquisition date break down as follows: Other non-current non-financial assets: €2m, cash and cash equivalents: €8m, other non-current non-financial liabilities: €2m. The goodwill of €14m chiefly stems from the expected synergy effects from integrating the entity into the current "Ophthalmic Devices" business and corresponds to the goodwill reported in the consolidated financial statements of Carl Zeiss Meditec AG.

The first-time consolidation of OLE did not have any significant impact on the results of operations of the ZEISS Group.

### **Changes to shares in subsidiaries currently under control**

In fiscal year 2016/17, the following key changes were recorded to shares in subsidiaries currently under control:

ZEISS and ASML Holding N.V., a leading global provider for the chip-making industry headquartered in Veldhoven (Netherlands) ("ASML"), intensified their long-standing and successful partnership in the reporting year. With its high-performance optics, the Semiconductor Manufacturing Technology segment supplies the core system of ASML's lithography scanner and is therefore ASML's most important strategic partner.

In order to intensify this partnership further, ASML paid a purchase price of €1b in the reporting year for 24.9% of the shares in Carl Zeiss SMT Holding GmbH & Co. KG, which was founded for this purpose, and to participate in the business of the Semiconductor Manufacturing Technology segment. There are no plans to transfer any further shares to ASML. Nor does ASML have any rights to purchase the remaining shares. Carl Zeiss AG thus also continues to hold the majority (75.1%) of the shares in Carl Zeiss SMT Holding GmbH & Co. KG, which is included as a fully consolidated subsidiary in the ZEISS Group's consolidated financial statements.

Furthermore, Carl Zeiss Meditec AG performed a capital increase in return for a cash contribution of €314m in March 2017. Stockholders' subscription rights were excluded pursuant to Sec. 186 (3) Sentence 4 German Stock Corporation Act (AKtG), meaning that Carl Zeiss AG did not issue any shares as part of this capital increase. This reduced Carl Zeiss AG's share in Carl Zeiss Meditec AG from 65.1% to 59.1%.

### **3 Consolidation principles**

The consolidated financial statements are based on the financial statements of the subsidiaries included in the Group as of 30 September 2017, which have been prepared according to uniform accounting policies.

Business combinations are accounted for using the purchase method pursuant to IFRS 3 *Business Combinations*.

The identifiable assets acquired and liabilities assumed in a business combination are measured at their fair values as of the acquisition date regardless of the extent of any non-controlling interests. Non-controlling interests are measured either at the fair value (full goodwill method) or the proportionate share of fair value of the assets acquired and liabilities assumed (partial goodwill method).

The cost of the interests acquired is offset against the Group's proportionate share in the subsidiary's net assets measured at fair value. Any acquisition-related costs incurred are expensed. Any excess of cost over the Group's interest in the net fair value remaining after offsetting is recognized as goodwill under intangible assets. Any excess of the Group's interest in the net fair value over cost is recognized through profit or loss. For business combinations prior to 14 May 2002, the option set forth in IFRS 1.18 in connection with IFRS 1.C1 was exercised by including the previous GAAP accounting for these business combinations in the consolidated financial statements in accordance with IFRSs. Transactions under common control are accounted for by rolling forward the carrying amount. Changes to the investment ratio in a subsidiary which do not lead to a loss of control are treated as transactions between equity providers that do not affect income.

The profit or loss of the subsidiaries acquired in the reporting period is included in the consolidated income statement based on their group affiliation, i.e. from the date on which the Group obtains control.

A subsidiary is deconsolidated on the date on which Carl Zeiss AG loses control over the entity.

The shares in net assets that are attributable to non-controlling interests are reported under non-controlling interests within consolidated equity.

Joint ventures as defined by IFRS 11 *Joint Arrangements* are accounted for using the equity method.

When using the equity method in accordance with IAS 28 *Investments in Associates and Joint Ventures*, the shares are initially recognized at cost in the statement of financial position and subsequently measured at amortized cost to reflect changes in the Group's share of the equity (net assets) after the acquisition date and impairment losses.

Intercompany receivables and liabilities between consolidated entities are netted.

Intercompany profits from intercompany trade are eliminated.

The income tax implications are considered in the course of consolidation by recognizing deferred taxes.

Internal revenue and other intercompany income are offset against the corresponding expenses in the consolidated income statement.

#### **4 Summarized financial information of material subsidiaries with non-controlling interests**

The summarized financial information presented in the following corresponds to the financial information in the published consolidated financial statements of Carl Zeiss Meditec AG, Jena: The share of non-controlling interests in Carl Zeiss Meditec AG amounts to 40.9% (prior year: 34.9%).

	<b>2016/17</b>	2015/16
	€ k	€ k
Revenue	1,189,896	1,088,365
Consolidated profit/loss	135,778	99,970
Other comprehensive income	4,218	-15,359
Total comprehensive income	139,996	84,611

	30 SEP 17	30 SEP 16
	€ k	€ k
Non-current assets	415,220	388,897
Current assets	1,207,888	858,833
Non-current liabilities	65,295	110,670
Current liabilities	316,078	285,897
Equity	1,241,735	851,163

	2016/17	2015/16
	€ k	€ k
Cash flows from operating activities	37,732	111,770
Cash flows from investing activities	-55,931	77,332
Cash flows from financing activities	14,494	-195,021
Changes in cash and cash equivalents from exchange rate movements and changes in the basis of consolidation	-1,080	1,588
Changes in cash and cash equivalents	-4,785	-4,331

	2016/17	2015/16
	€ k	€ k
Consolidated profit/loss attributable to non-controlling interests	55,669	34,938
Total comprehensive income attributable to non-controlling interests	57,398	29,570
Dividends paid to non-controlling interests	15,350	10,798
Equity attributable to non-controlling interests	509,111	297,468

The partnership between the Semiconductor Manufacturing Technology segment and ASML Holding N.V., Veldhoven (Netherlands), was intensified further in the reporting year. In connection with this, ASML paid a purchase price of €1b for 24.9% of the shares in Carl Zeiss SMT Holding GmbH & Co. KG and thus to participate in the business of the Semiconductor Manufacturing Technology segment.

The summarized financial information (IFRS) for Carl Zeiss SMT Holding GmbH & Co. KG and Carl Zeiss SMT GmbH breaks down as follows:

	Carl Zeiss SMT Holding GmbH & Co. KG	Carl Zeiss SMT GmbH
	30 SEP 17	30 SEP 17
	€ k	€ k
Non-current assets	44,291	307,577
Current assets	201,102	1,015,869
Non-current liabilities	1,007	248,769
Current liabilities	194,942	985,039
Equity	49,444	89,638
Other comprehensive income	108	51,872

## 5 Currency translation

The consolidated financial statements are presented in euros. In the separate financial statements, foreign currency receivables and liabilities are valued at the exchange rate prevailing on the date of the transaction. Monetary items in foreign currencies are revalued at the mean closing rate, with exchange rate gains and losses being reported in the consolidated income statement under financial result.

Financial statements denominated in foreign currency of the subsidiaries included in the consolidation are translated into euros on the basis of the functional currency concept pursuant to IAS 21 *The Effects of Changes in Foreign Exchange Rates*. All assets and liabilities are translated using average closing rates prevailing on the date of the transaction, whereas equity is translated at historical rates. The income and expense items from the income statement are translated using annual average exchange rates. Any exchange differences arising are recognized through other comprehensive income within other reserves from currency translation.

The following key exchange rates for the consolidated financial statements as of 30 September 2017 and 2016 were used for currency translation:

	€1 =	Closing rate		Average rate	
		30 SEP 17	30 SEP 16	2016/17	2015/16
China	CNY	7.8534	7.4463	7.5213	7.2563
UK	GBP	0.8818	0.8610	0.8716	0.7820
Japan	JPY	132.8200	113.0900	122.9052	124.0527
USA	USD	1.1806	1.1161	1.1046	1.1105

## 6 Accounting policies

The financial statements of the entities included in the consolidated financial statements are prepared in accordance with the Group's accounting policies. Adjustments are made as necessary where the local GAAP financial statements of individual entities diverge from these policies. Where the reporting date of subsidiaries is different from the reporting date for the consolidated financial statements, interim financial statements are used.

### New and revised financial reporting standards

The following financial reporting standards were adopted for the first time in the reporting period:

Date of issue	Standard/interpretation	Amendment/new standard or interpretation
6 May 2014	IFRS 11 <i>Joint Arrangements</i>	Clarification on accounting for the acquisition of interests in joint operations that constitute a business
12 May 2014	IAS 16 <i>Property, Plant and Equipment</i> and IAS 38 <i>Intangible Assets</i>	Guidance on the depreciation and amortization methods applicable to property, plant and equipment and intangible assets
25 September 2014	Improvements to IFRSs (2012-2014)	Clarifications and amendments to IFRS 5 and 7 as well as IAS 19 and 34
18 December 2014	IAS 1 <i>Presentation of Financial Statements</i>	Clarifications on assessing the materiality of disclosures in the notes to the consolidated financial statements, information on aggregating items, the structure of disclosures in the notes to the financial statements and the presentation of significant accounting policies
18 December 2014	IFRS 10 <i>Consolidated Financial Statements</i> , IFRS 12 <i>Disclosure of Interests in Other Entities</i> and IAS 28 <i>Investment Entities</i>	Confirmation that the exemption from preparing consolidated financial statements applies to subsidiaries of investment entities

The adoption of new and revised financial reporting standards did not have any significant impact on the net assets, financial position and results of operations of the ZEISS Group.

The IASB and the IFRS Interpretations Committee have issued a number of revised and new standards or interpretations, which did not come into effect in the reporting period. These new pronouncements have not been early adopted in the consolidated financial statements of Carl Zeiss AG.

Date of issue	Standard/interpretation	Amendment/new standard or interpretation	Effective date	Endorsed by the EU
19 January 2016	IAS 12 <i>Income Taxes</i>	Clarification on recognizing deferred tax assets from unrealized losses	Periods beginning on or after 1 January 2017	Yes
29 January 2016	IAS 7 <i>Statement of Cash Flows</i>	Disclosures on changes to liabilities from financing activities	Periods beginning on or after 1 January 2017	Yes
8 December 2016	Improvements to IFRSs (2014-2016)	Clarifications and amendments to IFRS 1 and 12 as well as IAS 28	Periods beginning on or after 1 January 2017 (IFRS 12) or 1 January 2018 (IFRS 1 and IAS 28)	No
28 May 2014	IFRS 15 <i>Revenue from Contracts with Customers</i>	Recognition of revenue from contracts with customers	Periods beginning on or after 1 January 2018	Yes
24 July 2014	IFRS 9 <i>Financial Instruments</i>	Accounting for financial instruments	Periods beginning on or after 1 January 2018	Yes
12 April 2016	IFRS 15 <i>Revenue from Contracts with Customers</i>	Clarifications on transitional arrangements for modified contracts and completed contracts	Periods beginning on or after 1 January 2018	Yes
8 December 2016	IAS 40 <i>Investment Property</i>	Clarification on transfers to or from investment property	Periods beginning on or after 1 January 2018	No
8 December 2016	IFRIC 22 <i>Foreign Currency Transactions and Advance Consideration</i>	Clarifications on the accounting treatment of business transactions that include the receipt or payment of consideration in foreign currency	Periods beginning on or after 1 January 2018	No
13 January 2016	IFRS 16 <i>Leases</i>	Accounting for leases	Periods beginning on or after 1 January 2019	Yes
7 June 2017	IFRIC 23 <i>Uncertainty over Income Tax Treatments</i>	Clarification on the accounting treatment of uncertainty relating to income taxes	Periods beginning on or after 1 January 2019	No
11 September 2014	IFRS 10 <i>Consolidated Financial Statements</i> and IAS 28 <i>Investments in Associates and Joint Ventures</i>	Clarification on the extent of gains recognized from the sale or contribution of assets	Postponed indefinitely	No

The IASB published the most recent version of IFRS 9 *Financial Instruments* on 24 July 2014. In terms of classification, IFRS 9 now defines 3 instead of 4 measurement categories for financial assets. Categorization is based on the company's business model on the one hand, and the characteristics of the contractual cash flows of the respective financial asset on the other. The classification of financial liabilities under IFRS 9 remains largely unchanged to the current accounting regulations as defined by IAS 39 *Financial Instruments: Recognition and Measurement*. The ZEISS Group does not currently expect any significant change to result from the reallocation of existing financial assets into individual categories compared to the allocation at present. Only shares in entities that have not been consolidated could result in deviating measurements.

At the same time, IFRS 9 also contains changes for calculating impairment losses. In the future, the basic principle of the expected loss model is to record expected losses from the moment a financial asset is recognized for the first time and before the loss occurs. The Group currently expects the effect to be in the low double-digit millions. However, a final conclusion is not possible at this point in time.

The new rules and regulations also result in additional quantitative and qualitative disclosures in the notes. Adoption of the standard is mandatory for the first time from the fiscal year 2018/19 for the ZEISS Group. The Group will not early adopt the standard.

On 28 May 2014, the IASB published the standard IFRS 15 *Revenue from Contracts with Customers*, which combines the former standards and interpretations on revenue recognition (IAS 11 and 18, IFRIC 13, 15 and 18 as well as SIC 31). IFRS 15, which is subject to mandatory adoption for the ZEISS Group from fiscal year 2018/19 onwards, provides 2 potential methods for transferring to the new regulations: (1) retrospective application for each past period presented pursuant to IAS 8 or (2) modified retrospective application by recording the cumulative adjustments from the first-time application of the standard at the time of first-time application. The Group currently intends to adopt the standard by means of the modified retrospective application method, meaning that any transition effects as of 1 October 2018 will be accumulated in retained earnings and the comparative period will be presented in accordance with the former regulations. The future accounting guidelines on revenue recognition pursuant to IFRS 15 are currently being developed and the relevant business processes adapted. This prompted the launch of a group-wide project, during the course of which the agreements and business models concerned were analyzed. The final calculation of the effects has not yet been completed. On the basis of the analyses performed so far, no major effects are expected. The new rules and regulations do, however, result in additional quantitative and qualitative disclosures in the notes.

On 13 January 2016, the IASB published the standard IFRS 16 *Leases*, which replaces the former standards on the accounting treatment of leases (IAS 17, IFRIC 4, SIC 15 and SIC 27). IFRS 16, which is subject to mandatory adoption for the ZEISS Group from fiscal year 2019/20 onwards, provides 2 potential methods for transferring to the new regulations: (1) retrospective application for each past period presented pursuant to IAS 8 or (2) modified retrospective application by recording the cumulative adjustments from the first-time application of the standard at the time of first-time application. The Group currently intends to early adopt the standard for the first time together with IFRS 15 as of 1 October 2018 by means of the modified retrospective application method, meaning that any transition effects as of 1 October 2018 will be accumulated in retained earnings and the comparative period will be presented in accordance with the former regulations. The future accounting guidelines on leases pursuant to IFRS 16 are currently being developed and the relevant business processes adapted. This prompted the launch of a group-wide project, during the course of which the agreements and business models concerned were analyzed. Under IFRS 16, the assets side of the statement of financial position records a right-of-use asset and the liabilities side a lease obligation in the same amount as the leased assets of which the Group, as the lessee, is the beneficial owner. The Group currently expects this to have an effect in the low to medium triple-digit millions. A portion of the minimum lease payments from operating leases mentioned in note 27 Leases are recognized under these aforementioned right-of-use asset or lease obligation. However, the final calculation of the effects has not yet been completed.

The remaining new or amended rules and regulations mentioned in the preceding table are not expected to have a significant effect.

The other accounting policies used were the same as in the prior year.

## **Use of estimates**

The preparation of financial statements in accordance with IFRSs requires management to make estimates and assumptions. These can affect the measurement of assets and liabilities, the nature and scope of contingencies, and the reported amounts of income and expenses during the reporting period. The assumptions and estimates primarily relate to the following matters:

- » The determination of uniform useful lives is subject to estimates by management.
- » The measurement parameters for impairment testing, in particular regarding goodwill (see note 12 Intangible assets).
- » The actuarial parameters on which the calculation of the defined benefit obligations is based (see note 19 Provisions for pensions and similar obligations).
- » The recoverability of the future tax relief.
- » The timing of recognizing intangible assets pursuant to IAS 38 *Intangible Assets*.

In addition, estimates are required when assessing the recoverability of inventories and receivables as well as recognizing and measuring provisions. Actual results may differ from these estimates. The estimates and assumptions are regularly reviewed based on past experience. Changes are recognized through profit or loss as and when better information is available.

## **Intangible assets**

In accordance with IAS 38 *Intangible Assets*, internally generated intangible assets are recognized only if it is probable that future economic benefits will flow to the entity and the cost of the asset can be measured reliably.

Acquired and internally generated intangible assets are initially measured at cost. Intangible assets with finite useful lives are subsequently measured at cost less any accumulated amortization and any accumulated impairment losses. Amortization is charged over the useful life using the straight-line method. The major part of amortization is contained in cost of sales.

Intangible assets with indefinite useful lives as well as goodwill are not amortized and are therefore recognized at cost less any impairment losses.

Development costs are capitalized if all of the criteria set forth in IAS 38.57 are satisfied. These include, for example, demonstrating the technical feasibility of completing the intangible asset so that it will be available for use or sale. Other criteria relate to the intention to complete the intangible asset and the ability to use or sell it. In addition, it must generate future economic benefits for the company.

The entities of the ZEISS Group perform development work at the limit of the possible and set new technological standards. That is why only a small portion of development costs is capitalized in the ZEISS Group, as the criteria for recognition as part of the cost of an intangible asset are not all satisfied until a relatively late stage.

The costs directly attributable to development, including appropriate development-related overheads, are recognized as part of the cost of an asset. Amortization of capitalized development costs begins when the asset is available for use and is charged using the straight-line method over the expected product life cycle or based on unit numbers defined in business plans. Research costs and development costs that cannot be capitalized are expensed in the period in which they are incurred.

Amortization is based on the following ranges of useful lives:

	<b>Useful life</b>
Patents, industrial rights, licenses, software	2 to 20 years
Development costs	2 to 10 years
Other intangible assets	2 to 10 years

### **Property, plant and equipment**

Property, plant and equipment are measured at cost less any accumulated depreciation and any accumulated impairment losses in accordance with IAS 16 *Property, Plant and Equipment*. The cost of self-constructed assets includes direct costs and a portion of materials and production overheads. The cost of creating qualifying assets, i.e. for assets that take a substantial period of time to produce, includes borrowing costs. Depreciation is charged on a straight-line basis over the asset's useful life.

Depreciation is based on the following ranges of useful lives:

	<b>Useful life</b>
Buildings and structures	2 to 50 years
Technical equipment and machinery	2 to 21 years
Other equipment, furniture and fixtures	2 to 25 years

### **Impairment of intangible assets and property, plant and equipment**

IAS 36 *Impairment of Assets* requires assessing at the end of each reporting period whether there is any indication that the assets reported in the statement of financial position may be impaired. In addition, annual impairment testing is required for intangible assets with indefinite useful lives and goodwill. If any indication exists or if impairment testing is required, the Group carries out impairment testing. This involves estimating the recoverable amount of the asset or cash-generating unit (CGU) in order to determine any need to record an impairment loss. The recoverable amount is the higher of the fair value less costs to sell and the value in use – determined for the individual asset or cash-generating unit in each case.

In assessing value in use, the estimated future cash flows are discounted to their present value using an after-tax risk-adjusted discount rate based on the discounted cash flow method. The discount rates are calculated using the parameters risk-free base interest rate, risk premium (market risk premium, country risk and beta factor), borrowing costs and tax effect, and reflect the capital structure of the cash-generating unit. The detailed planning period for future cash flows covers 5 fiscal years. For the following fiscal years, the cash flows of the fifth detailed planning year are rolled forward taking into account appropriate growth. An impairment exists when the carrying amount of the asset or cash-generating unit exceeds the recoverable amount. Such impairment loss is recognized in the income statement immediately.

With the exception of goodwill, impairment losses recognized in prior years are reversed if the reasons for recognizing the impairment no longer exist. The reversal is limited to ensure that the carrying amount is not exceeded that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years. The reversal of impairment losses recognized on goodwill is not permissible.

### **Government grants**

In accordance with IAS 20 *Accounting for Government Grants and Disclosure of Government Assistance*, government grants are only recorded if it is reasonably certain that the conditions attached to the grants will be fulfilled and the grants actually awarded. Public investment grants are generally deferred and amortized through profit or loss over the useful lives of the related assets. Grants related to income are offset against the corresponding expenses in the period in which the expenses are incurred.

### **Leases**

A lease is classified as a finance lease if all risks and rewards incidental to ownership are transferred to the lessee. All other leases are classified as operating leases.

Leased assets classified as finance leases in accordance with IAS 17 *Leases* and thus constituting purchases of assets with long-term financing for economic purposes are recognized at the inception of the lease at the fair value of the leased property or, if lower, at the present value of the minimum lease payments. The corresponding liability is recorded as a lease liability in the statement of financial position. Leased assets are depreciated over the useful life of the asset. However, if there is no reasonable certainty that the Group will obtain ownership by the end of the lease term, the asset is depreciated over the shorter of the estimated useful life of the asset and the lease term.

Lease payments for finance leases are apportioned between finance charges and reduction of the lease liability. Finance charges are recognized in the interest result in the income statement.

Operating lease payments are recognized immediately as an expense in earnings before interest and taxes in the income statement.

Sale-and-leaseback agreements are presented using the same principles.

### **Financial instruments**

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Financial assets and financial liabilities are reported in the consolidated statement of financial position as of the date on which the Group becomes party to the contract. Regular way purchases and sales of financial assets are generally recognized on the settlement date.

Under IAS 39 *Financial Instruments: Recognition and Measurement*, financial instruments are subdivided into the following categories:

- » Financial assets and liabilities at fair value through profit or loss and financial assets and liabilities held for trading (FVtPL)
- » Available-for-sale financial assets (AfS)
- » Held-to-maturity investments (HtM)
- » Loans and receivables (LaR)
- » Financial liabilities carried at amortized cost (FLAC)

The classification depends on the nature and purpose of the financial instrument and is designated upon recognition.

Fair value generally corresponds to the market or quoted value. If no active market exists, fair value is calculated using generally accepted valuation techniques (for example, using the present value method or option pricing models). Amortized cost corresponds to the cost of the financial liabilities adjusted for repayments, impairment and the amortization of any discounts or premiums.

The ZEISS Group does not apply the fair value option pursuant to IAS 39.

The financial assets held for trading exclusively relate to derivative financial instruments, which the ZEISS Group uses for interest and currency hedging purposes. These are measured at fair value. Any changes in market value are recognized through profit or loss unless hedge accounting is used.

Investments as well as securities and stock and pension fund shares are generally allocated to the category of available-for-sale financial assets and recognized at fair value accordingly. If there is no active market for investments and it is not practicable to determine a reliable market value, they are measured at cost. Unrealized gains and losses are recognized in a separate item within equity, taking deferred taxes into account. If there is objective evidence of impairment, the accumulated loss recognized directly in equity is reclassified to the income statement. Increases in the market value of equity instruments are always recognized directly in equity, even if they were previously written down through profit or loss.

Held-to-maturity investments, loans and receivables, and financial liabilities are measured at amortized cost. These are mainly loans, trade receivables, cash and cash equivalents, and other financial assets and liabilities. Non-interest-bearing loans and loans bearing off-market interest rates are recognized at present value and increased due to the passage of time over their term to maturity.

#### **Offsetting of financial instruments**

In the ZEISS Group, derivative financial transactions are concluded in accordance with the German master agreement for financial futures contracts. Offsetting is enforceable only in the event of insolvency and therefore does not fulfill the offsetting criteria pursuant to IAS 32 *Financial Instruments: Presentation*.

In the ZEISS Group, credit notes received are offset against corresponding trade payables, and trade receivables offset against corresponding credit notes if these fulfill the offsetting criteria pursuant to IAS 32.

#### **Hedge accounting**

In the ZEISS Group, hedge accounting is applied for hedging relationships designed to hedge exposure from changes in cash flows arising from fluctuation in interest or exchange rates. To the extent that changes in the fair value of a hedging instrument relate to the effective portion of a hedge, they are recognized under other reserves from cash flow hedges, a separate item within equity, net of the related deferred taxes. The ineffective portion of the hedge is recognized immediately through profit or loss. The cumulative amounts recognized in equity are reclassified to profit or loss in the period in which the hedged item affects profit or loss.

The criteria for hedge accounting include:

A hedge is considered to be highly effective in offsetting changes in fair value or cash flows attributable to the hedged risk; the effectiveness of the hedge can be reliably measured; and at the inception of the hedge there is formal designation and documentation of the hedging relationship as well as the ZEISS Group's risk management objectives and strategies for undertaking the hedge. In addition, it is documented at the inception of the hedge whether the derivatives used for hedging purposes are expected to be highly effective in offsetting changes in fair value or cash flows of the hedged item that are attributable to the hedged risk. This assessment is renewed thereafter on a quarterly basis, along with a retrospective assessment of whether the hedge actually was highly effective.

#### **Inventories**

Materials and supplies as well as merchandise are measured at costs of purchase, which are generally determined using the average cost method. Work in progress and finished goods are measured at costs of conversion. In addition to direct materials as well as direct labor, costs of conversion include an appropriate portion of materials and production overheads as well as production-related depreciation and production-related administrative expenses.

Write-downs are recorded on inventories when the costs of purchase or conversion exceed the estimated net realizable value. All inventory, selling and income risks are thus given adequate consideration. If the reasons for a write-down no longer apply, it is reversed to the lower of cost or estimated net realizable value.

#### **Receivables and other assets**

Receivables and other assets are accounted for at nominal value or amortized cost. Impairment losses are recognized in separate allowance accounts. Identifiable risks of default are accounted for by means of specific allowances. Any uncollectible receivables or other assets are derecognized.

#### **Long-term construction contracts**

Long-term construction contracts are recognized in accordance with the percentage-of-completion (PoC) method. Under this method, revenue and costs of sales incurred are recognized according to the stage of completion as of the reporting date, based on the contracts concluded with the customers, as soon as the outcome of the construction contract can be estimated reliably. The percentage of completion is determined based on the contract costs incurred by the reporting date as a share of total contract costs (cost-to-cost method). After deducting advances received, the revenue calculated using the PoC method is presented under trade receivables in the statement of financial position.

When the outcome of a construction contract cannot be estimated reliably, contract revenue is recognized only to the extent of contract costs incurred that it is probable will be recoverable. Any anticipated losses are expensed immediately in full.

#### **Cash and cash equivalents**

Cash and cash equivalents comprise cash on hand and cash at banks as well as all investments with an original term of less than 3 months.

### **Provisions for pensions and other post-employment benefits**

The entities of the ZEISS Group have various pension plans. In addition, some foreign subsidiaries have agreed to provide post-employment medical care benefits on a certain scale.

Payments for defined contribution obligations including contributions to statutory pension funds are recognized as an expense for the period.

Defined benefit obligations are measured according to IAS 19 *Employee Benefits* using the projected unit credit method allowing for expected future adjustments to salaries and pensions.

The provisions for pensions and similar obligations at German group entities are determined based on actuarial principles and using the 2005 G mortality tables published by Prof. Dr. Klaus Heubeck. The provisions for pensions and similar obligations at entities outside Germany are determined using the relevant local basis for calculation and local parameters.

External funds invested to cover defined benefit obligations are measured at fair value and offset against the corresponding obligations.

Changes in the portfolio and variances in actual trends compared to the assumptions used for calculation purposes, as well as changes in the assumptions for the measurement of defined benefit obligations, result in actuarial gains and losses, which are recognized directly in other reserves within equity and thus directly affect the consolidated statement of financial position and the consolidated statement of comprehensive income.

The balance of the defined benefit obligation and plan assets (net defined benefit obligation or net plan assets) is discounted using the interest rate on which the measurement of the defined benefit obligation is based. The resulting net interest cost or income is recognized in the interest expenses or interest income in the consolidated income statement. Service cost is disclosed in the earnings before interest and taxes (EBIT).

### **Deferred compensation**

The Group offers employees with unlimited employment contracts the option of using untaxed compensation to make provision for old age. Depending on the terms of their contract, the employees may convert up to 3 monthly salaries a year. The amounts converted are paid into an employer's pension liability insurance policy and the associated benefits are pledged to the employees. The amount and timing of the receivables from the employer's pension liability insurance matches those of the benefits payable to employees. As the receivables are pledged, they generally satisfy the requirements for plan assets and are presented on a net basis. The pension plan is therefore classified as a defined contribution plan from a substance-over-form perspective. If the future benefits under the employer's pension liability insurance are higher than the benefit obligation to the employee, the employee receives the higher amount.

The amount is dependent on the age of the employees at the time of conversion of their compensation and the employees' decision on whether to have the deferred compensation paid out as a one-off payment or as a pension. In addition to the conversion of compensation, the deferred compensation system may include invalidity and surviving dependants' benefits, depending on the model chosen.

### **Other provisions**

In accordance with IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*, present obligations to third parties arising from past events are disclosed within other provisions if it is probable that an outflow of resources will be required and can be measured reliably. The provisions are recognized at full cost.

Where the effect of the time value of money is material and the remaining term of the obligation can be determined reliably, non-current provisions are recognized at the amount needed to settle the obligation, discounted to the reporting date. In such cases, the increase in the provision due to the passage of time is recognized as an interest expense.

The provisions for obligations under the German phased retirement scheme, long-service awards and death benefits are determined and measured on the basis of actuarial reports or similar parameters.

### **Restructuring provisions**

Restructuring provisions are recognized when an entity has made the decision to restructure and has a detailed formal plan for the restructuring, stating the parts of a business or locations concerned, the approximate number of employees affected and when the plan will be implemented, and it has been announced to those affected or their representatives before the reporting date. The amount of the provision covers all direct expenditures arising from the restructuring which necessarily arise during the restructuring and are not associated with the ongoing or future activities of the entity.

### **Warranty provisions**

Warranty obligations may be legal, contractual or non-contractual. Provisions are recognized for expenses expected to be incurred under guarantee or warranty obligations. Warranty claims are expected especially when the warranty period has not yet expired, when warranty expenses were incurred in the past or when there is specific indication of pending warranty cases. The warranty risk is derived either from individual estimates or past experience and is provided for accordingly.

### **Provisions for litigation risks**

Provisions are recognized for risks arising from litigation in which entities of the ZEISS Group are the defendants and if it is more likely than not that the outcome will be negative. They are measured at the amount that the company would have to pay in the event of a negative outcome. This amount includes the amounts payable by the company, such as damages and compensation payments as well as anticipated legal costs.

### **Deferred taxes**

Deferred taxes are recognized using the liability method according to IAS 12 *Income Taxes*.

Deferred tax assets and liabilities are recognized on all temporary differences between the IFRS carrying amounts and the tax accounts of consolidated entities and on consolidation measures.

Further, deferred tax assets for future economic benefits from unused tax losses and unused tax credits are taken into account if it is probable that they will be used.

The carrying amount of deferred tax assets is reviewed at every reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow the deferred tax asset to be utilized. A previously unrecognized deferred tax asset is reassessed and recognized to the extent that it has become probable that future economic benefits will be recovered.

Deferred tax liabilities are recognized for the expected income tax and withholding tax on expected dividend payments by subsidiaries. In contrast, deferred tax liabilities are not recognized for temporary differences from retained earnings of subsidiaries as the temporary differences will not reverse in the foreseeable future.

Deferred taxes relating to items recognized in other comprehensive income are likewise recognized in other comprehensive income and not through profit or loss.

Deferred tax assets and deferred tax liabilities are offset if a group entity has a legally enforceable right to offset current tax assets and current tax liabilities and these relate to income taxes levied by the same taxation authority on the same taxable entity. Consequently, deferred tax assets and liabilities are netted within consolidated tax groups.

### **Liabilities**

Liabilities are carried at amortized cost using the effective interest method.

### **Revenue recognition and other income**

The company recognizes revenue from the sale of goods based on the corresponding contract as soon as all parts of the product have been delivered, risks of ownership have been transferred, the sales price is fixed or can be determined, there are no significant obligations to customers and collection of the receivables is considered probable. Revenue is presented net of cash discounts, price reductions, customer bonuses and rebates. If the sale comprises services or maintenance agreements, this portion of the revenue is deferred and released to income in accordance with the stage of completion or pro rata temporis over the contractual period.

If rights of return are agreed when products are sold, revenue is not recognized unless corresponding values based on past experience are available. The expected volume of returns is estimated and recognized as reducing revenue based on past experience.

Interest income is recognized pro rata temporis using the effective interest method. Dividends are recognized when the legal right to receive the payment is established. If royalties are paid for multiperiod agreements, revenue is generally recognized on a straight-line basis.

### **Expense recognition**

Expenses are generally recognized when it is probable that there will be an outflow of economic benefits from the entity.

Unless they can be capitalized as part of the cost of the asset, research and development costs are expensed as incurred. Subsidies for research and development are deducted from the expenses when they become receivable for research and development projects that have been performed and the associated expenditure.

The company is liable to its customers for flawless functioning of the products sold during the contractual warranty period. The corresponding warranty provisions are recognized by debiting cost of sales when revenue is recognized.

## NOTES TO THE CONSOLIDATED INCOME STATEMENT

### 7 Revenue

Revenue contains the amounts charged to customers for goods and services. Sales deductions such as rebates and discounts are deducted from revenue.

Revenue was generated from products, technical and other services for biomedical research and medical technology, system solutions for the semiconductor, automotive and mechanical engineering industries, planetariums and high-end consumer articles such as eyeglass lenses, camera and cine lenses and binoculars.

Revenue by region breaks down as follows:

	2016/17		2015/16	
	€ k	%	€ k	%
Germany	620,845	12	611,956	13
EMEA (without Germany)	2,081,338	39	1,837,115	38
Americas	1,362,561	25	1,297,907	26
APAC	1,283,060	24	1,133,861	23
	<b>5,347,804</b>	<b>100</b>	<b>4,880,839</b>	<b>100</b>

Of revenue, €4,819m (prior year: €4,405m) is attributable to the sale of goods, €475m (prior year: €428m) to the rendering of services and €54m (prior year: €48m) to the granting of licenses.

### 8 Other income

Other income breaks down as follows:

	2016/17		2015/16	
	€ k		€ k	
Rental income	5,339		5,762	
Sale of scrap	621		602	
Other operating income	14,240		2,964	
	<b>20,200</b>		<b>9,328</b>	

Other operating income contains income of €7.5m from the sale of assets at Aaren Scientific Inc. (USA).

## 9 Other expenses

Other expenses break down as follows:

	2016/17 € k	2015/16 € k
Rental expenses	318	179
Losses on the disposal of fixed assets	359	963
Other operating expenses	4,131	3,830
	<b>4,808</b>	<b>4,972</b>

## 10 Financial result

### Interest result

	2016/17 € k	2015/16 € k
Interest income	7,616	11,529
» thereof from affiliates	250	189
Interest expenses	39,017	67,134
» thereof to affiliates	213	426
» thereof interest cost for pensions	23,590	35,430
	<b>-31,401</b>	<b>-55,605</b>

### Other financial result

	2016/17 € k	2015/16 € k
Income from investments	1,208	3,425
Income from profit transfer	2,564	1,741
Expenses for loss absorption	3,219	3,426
<b>Investment result</b>	<b>553</b>	<b>1,740</b>
Income/expenses from exchange differences	-17,870	-11,038
Income/expenses from changes in market value	32,683	-3,933
Sundry other financial result	3,423	2,276
<b>Other financial result</b>	<b>18,789</b>	<b>-10,955</b>

Income from investments includes income from affiliates of €626k (prior year: €1,420k).

The expenses from exchange differences and the income from changes in market value should be seen in the context of the hedging of currency risks and were offset in the reporting period by currency effects reported in the operating result.

## 11 Income taxes

Income taxes include domestic and foreign income taxes, the reversal of tax provisions, tax refunds and deferred taxes.

Income taxes break down as follows:

	2016/17 € k	2015/16 € k
Current tax expenses less tax refunds and reversal of tax provisions	210,625	182,723
Deferred tax income	-14,450	-39,113
» thereof from temporary differences	-11,938	-44,507
» thereof from changes in tax rates	1,364	0
» thereof from unused tax losses including any reductions	-3,876	5,394
	<b>196,175</b>	<b>143,610</b>

Deferred taxes are determined on the basis of the tax rates that apply or are expected to apply based on the tax laws that have been enacted or substantively enacted in the individual countries at the time of realization. In Germany, a corporate income tax rate of 15.0% currently applies. Taking into account the solidarity surcharge and the different trade tax levy rates, the rates for German entities are in the range of 27.2% to 30.2% (prior year: 27.2% to 31.6%). The tax rates form the basis for the calculation of current taxes.

The nominal tax rates applicable outside Germany in the reporting period ranged between 9.0% and 38.4% (prior year: 9.0% and 38.9%).

The total amount of deferred tax assets and liabilities as of 30 September 2017 is allocated to the following items of the statement of financial position:

	30 SEP 17		30 SEP 16	
	Assets € k	Liabilities € k	Assets € k	Liabilities € k
	<b>21,804</b>	<b>88,619</b>	<b>23,907</b>	<b>79,236</b>
<b>Non-current assets</b>				
Intangible assets	13,567	44,324	13,882	48,504
Property, plant and equipment	5,237	28,100	3,433	27,897
Other non-current assets	3,000	16,195	6,592	2,835
<b>Current assets</b>	<b>85,822</b>	<b>35,017</b>	<b>81,941</b>	<b>22,539</b>
Inventories	71,125	6,038	69,480	4,608
Receivables and other current assets	14,697	28,979	12,461	17,931
<b>Non-current liabilities</b>	<b>444,354</b>	<b>2,244</b>	<b>487,783</b>	<b>52</b>
Provisions for pensions and similar obligations	394,570	0	456,665	0
Other non-current liabilities	49,784	2,244	31,118	52
<b>Current liabilities</b>	<b>66,474</b>	<b>2,704</b>	<b>86,670</b>	<b>928</b>
<b>Outside basis differences</b>	<b>0</b>	<b>2,086</b>	<b>0</b>	<b>2,066</b>
<b>Unused tax losses</b>	<b>77,479</b>	<b>0</b>	<b>72,078</b>	<b>0</b>
<b>Total deferred taxes</b>	<b>695,933</b>	<b>130,670</b>	<b>752,379</b>	<b>104,821</b>
Impairment losses	4,105	0	2,580	0
Offsetting	75,393	75,393	43,929	43,929
<b>Deferred taxes, net</b>	<b>616,435</b>	<b>55,277</b>	<b>705,870</b>	<b>60,892</b>

Unused tax losses include deferred tax assets from unused tax losses as well as from tax credits and interest carryforwards.

Apart from Germany, the following countries also recognized unused tax losses that are likely to be used: Austria, Brazil, China, Denmark, France, Israel, Italy, Spain, the UK and the USA (prior year: Austria, Brazil, China, Denmark, France, Italy, Spain and the USA).

The unused tax losses for which no deferred taxes were recognized amount to €211,947k (prior year: €281,195k). Most of these are available for offsetting for more than 5 years or do not expire at all. As of the reporting date these unused tax losses were classified as not likely to be usable. Consolidation measures gave rise to deferred tax assets of €55,117k (prior year: €43,256k) and deferred tax liabilities of €36,409k (prior year: €42,968k).

A group tax rate of 31.1% was used as the tax rate applicable for the reconciliation of the expected income tax expense of €235,596k (prior year: €170,258k), based on earnings before taxes, to the current income tax expense of €196,175k (prior year: €143,610k).

The tax reconciliation statement is presented in the table below:

	2016/17	2015/16
	€ k	€ k
Earnings before taxes (EBT)	757,545	547,454
<b>Expected income tax expense (= 31.1% x EBT; prior year: = 31.1% x EBT)</b>	<b>235,596</b>	<b>170,258</b>
Differences from diverging tax rates	-15,630	-12,752
Effects of changes in tax rates	1,364	0
Effects of non-deductible expenses	29,337	19,994
Effects of tax-free income	-2,592	-2,269
Effects relating to other periods	-22,246	-28,055
Permanent effects	-26,593	-805
Other	-3,061	-2,761
<b>Current income tax expense</b>	<b>196,175</b>	<b>143,610</b>

## NOTES TO THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

### 12 Intangible assets

The goodwill amounting to €588,908k (prior year: €581,990k) is tested for impairment annually at the level of the cash-generating units.

The cash flows referred to in the impairment test are determined on the basis of detailed plans with a planning horizon of 5 years. For the following fiscal years, the cash flows of the last detailed planning year are rolled forward with a growth rate of 1.0%. The discount rates are based on an after-tax weighted average cost of capital (WACC) depending on the cash-generating unit. The cost of capital is a material parameter in impairment testing. A change in WACC has a direct impact on value in use.

In a sensitivity analysis, the discount rate was increased by 1 percentage point and the long-term growth rate was decreased by half a percentage point. This did not cause any need to recognize an impairment loss, either individually or when combining the 2 adjustments.

Goodwill is allocated to the cash-generating units on the basis of the internal organizational structure of the ZEISS Group. This allows goodwill to be allocated to the individual segments or, more specifically, business groups/strategic business units as follows:

	30 SEP 17		30 SEP 16	
	Carrying amounts	WACC (after tax)	Carrying amounts	WACC (after tax)
	€ k	%	€ k	%
» Semiconductor Metrology Systems	42,375	12.1	44,162	11.1
<b>Semiconductor Manufacturing Technology</b>	<b>42,375</b>		<b>44,162</b>	
» Industrial Metrology	39,437	9.3	39,437	9.3
» Microscopy	42,598	8.6	44,510	8.7
<b>Research &amp; Quality Technology</b>	<b>82,035</b>		<b>83,947</b>	
» Ophthalmic Devices	137,062	9.3	126,139	8.4
» Microsurgery	1,441	9.3	1,747	8.4
<b>Medical Technology</b>	<b>138,503</b>		<b>127,886</b>	
» Vision Care	325,995	5.9	325,995	7.4
<b>Vision Care/Consumer Products</b>	<b>325,995</b>		<b>325,995</b>	
<b>Total</b>	<b>588,908</b>		<b>581,990</b>	

The change in the Medical Technology segment's Ophthalmic Devices cash-generating unit primarily stems from the first-time consolidation of Ophthalmic Laser Engines, LLC, Lafayette (USA). The other changes in the cash-generating units result from foreign currency translation in accordance with IAS 21.47.

Apart from goodwill, the ZEISS Group does not report any intangible assets with indefinite useful lives.

	Patents, industrial rights, licenses, software	Goodwill	Development costs	Other intangible assets	Total
	€ k	€ k	€ k	€ k	€ k
<b>Cost</b>					
<b>1 October 2015</b>	<b>371,326</b>	<b>678,557</b>	<b>209,235</b>	<b>139,608</b>	<b>1,398,726</b>
Change in the basis of consolidation	0	0	0	0	0
Additions	20,362	0	7,141	8,633	36,136
Disposals	0	0	650	125	775
Reclassifications	12,583	0	0	-12,089	494
Exchange differences	1,561	66	230	262	2,119
<b>30 September 2016</b>	<b>405,832</b>	<b>678,623</b>	<b>215,956</b>	<b>136,289</b>	<b>1,436,700</b>
<b>Amortization/impairment</b>					
<b>1 October 2015</b>	<b>312,282</b>	<b>96,748</b>	<b>114,354</b>	<b>80,381</b>	<b>603,765</b>
Change in the basis of consolidation	0	0	0	0	0
Additions	20,473	0	16,837	11,260	48,570
Disposals	0	0	55	0	55
Reversal of impairment losses	0	0	0	0	0
Reclassifications	316	0	0	-331	-15
Exchange differences	2,291	-115	20	174	2,370
<b>30 September 2016</b>	<b>335,362</b>	<b>96,633</b>	<b>131,156</b>	<b>91,484</b>	<b>654,635</b>
<b>Carrying amounts as of 30 September 2016</b>					
	<b>70,470</b>	<b>581,990</b>	<b>84,800</b>	<b>44,805</b>	<b>782,065</b>
<b>Cost</b>					
<b>1 October 2016</b>	<b>405,832</b>	<b>678,623</b>	<b>215,956</b>	<b>136,289</b>	<b>1,436,700</b>
Change in the basis of consolidation	0	13,825	0	0	13,825
Additions	19,809	0	19,608	8,653	48,070
Disposals	466	0	142	430	1,038
Reclassifications	4,633	0	0	-4,606	27
Exchange differences	-5,503	-11,202	-4,325	-3,690	-24,720
<b>30 September 2017</b>	<b>424,305</b>	<b>681,246</b>	<b>231,097</b>	<b>136,216</b>	<b>1,472,864</b>
<b>Amortization/impairment</b>					
<b>1 October 2016</b>	<b>335,362</b>	<b>96,633</b>	<b>131,156</b>	<b>91,484</b>	<b>654,635</b>
Change in the basis of consolidation	0	0	0	0	0
Additions	27,104	0	17,415	10,711	55,230
Disposals	434	0	142	426	1,002
Reversal of impairment losses	0	0	0	0	0
Reclassifications	0	0	0	0	0
Exchange differences	-4,851	-4,295	-1,267	-2,348	-12,761
<b>30 September 2017</b>	<b>357,181</b>	<b>92,338</b>	<b>147,162</b>	<b>99,421</b>	<b>696,102</b>
<b>Carrying amounts as of 30 September 2017</b>					
	<b>67,124</b>	<b>588,908</b>	<b>83,935</b>	<b>36,795</b>	<b>776,762</b>

### 13 Property, plant and equipment

	Land and buildings including buildings on third-party land	Technical equipment and machinery	Other equipment, furniture and fixtures	Assets under construction	Total
	€ k	€ k	€ k	€ k	€ k
<b>Cost</b>					
<b>1 October 2015</b>	<b>747,271</b>	<b>825,152</b>	<b>863,412</b>	<b>62,921</b>	<b>2,498,756</b>
Change in the basis of consolidation	0	0	0	0	0
Additions	7,528	40,386	72,823	34,000	154,737
Disposals	5,108	23,278	60,809	911	90,106
Reclassifications	-9,269	84	44,130	-35,439	-494
Exchange differences	2,931	-468	790	-45	3,208
<b>30 September 2016</b>	<b>743,353</b>	<b>841,876</b>	<b>920,346</b>	<b>60,526</b>	<b>2,566,101</b>
<b>Depreciation/impairment</b>					
<b>1 October 2015</b>	<b>290,832</b>	<b>535,799</b>	<b>667,399</b>	<b>0</b>	<b>1,494,030</b>
Change in the basis of consolidation	0	0	0	0	0
Additions	27,051	62,621	64,914	0	154,586
Disposals	2,406	21,822	38,649	0	62,877
Reversal of impairment losses	0	0	0	0	0
Reclassifications	-8,436	-12,474	20,925	0	15
Exchange differences	1,250	-482	893	0	1,661
<b>30 September 2016</b>	<b>308,291</b>	<b>563,642</b>	<b>715,482</b>	<b>0</b>	<b>1,587,415</b>
<b>Carrying amounts as of 30 September 2016</b>	<b>435,062</b>	<b>278,234</b>	<b>204,864</b>	<b>60,526</b>	<b>978,686</b>
<b>Cost</b>					
<b>1 October 2016</b>	<b>743,353</b>	<b>841,876</b>	<b>920,346</b>	<b>60,526</b>	<b>2,566,101</b>
Change in the basis of consolidation	0	0	0	0	0
Additions	6,889	39,787	67,302	69,356	183,334
Disposals	2,688	23,426	40,629	1,306	68,049
Reclassifications	1,350	20,941	15,610	-37,928	-27
Exchange differences	-8,353	-12,347	-10,705	-1,509	-32,914
<b>30 September 2017</b>	<b>740,551</b>	<b>866,831</b>	<b>951,924</b>	<b>89,139</b>	<b>2,648,445</b>
<b>Depreciation/impairment</b>					
<b>1 October 2016</b>	<b>308,291</b>	<b>563,642</b>	<b>715,482</b>	<b>0</b>	<b>1,587,415</b>
Change in the basis of consolidation	0	0	0	0	0
Additions	29,229	60,787	69,629	0	159,645
Disposals	2,372	22,007	28,314	0	52,693
Reversal of impairment losses	0	0	0	0	0
Reclassifications	8	202	-210	0	0
Exchange differences	-4,676	-7,675	-6,966	0	-19,317
<b>30 September 2017</b>	<b>330,480</b>	<b>594,949</b>	<b>749,621</b>	<b>0</b>	<b>1,675,050</b>
<b>Carrying amounts as of 30 September 2017</b>	<b>410,071</b>	<b>271,882</b>	<b>202,303</b>	<b>89,139</b>	<b>973,395</b>

There were no reversals of impairment losses on property, plant and equipment. Impairment losses on property, plant and equipment of €3,594k (prior year: €1,747k) were recorded in the income statement.

Property, plant and equipment with a net carrying amount of €51,374k (prior year: €50,498k) are subject to restrictions on disposal or serve as collateral for liabilities. Accumulated contractual purchase commitments for property, plant and equipment and intangible assets total €133,336k as of the reporting date (prior year: €32,757k).

#### 14 Other financial assets

	30 SEP 17		30 SEP 16	
	thereof due in more than 1 year		thereof due in more than 1 year	
	€ k	€ k	€ k	€ k
Shares in affiliates	33,734	33,734	12,031	12,031
Investments	1,642	1,642	1,487	1,487
Loans	43,820	42,494	28,322	27,267
Securities	240,627	81,775	133,420	40,573
Derivatives	41,245	0	9,443	0
Sundry other financial assets	1,506,592	653,354	268,586	61,568
	<b>1,867,660</b>	<b>812,999</b>	<b>453,289</b>	<b>142,926</b>

The sundry other non-current financial assets mainly consist of fixed-term deposits, the assets of entities within and outside Germany in connection with financing or securing obligations toward employees and rent deposits with remaining terms of more than 1 year.

The increase in sundry other current assets pertains almost exclusively to the change in fixed-term deposits with a term of more than 90 days.

#### 15 Other non-financial assets

Other non-financial assets mainly comprise prepaid expenses as well as tax reimbursement claims from taxes other than income taxes.

#### 16 Inventories

	30 SEP 17		30 SEP 16	
	€ k	€ k	€ k	€ k
Materials and supplies	325,089		279,768	
Work in progress	469,595		442,522	
Finished goods and merchandise	461,781		388,159	
Advances	18,684		7,724	
	<b>1,275,149</b>		<b>1,118,173</b>	

The carrying amounts contain write-downs of €168,589k (prior year: €159,416k).

The write-downs recorded on inventories, which are recognized under cost of sales in the consolidated income statement, amounted to €65,339k in the reporting period (prior year: €65,242k). Write-downs of €8,751k (prior year: €5,429k) were reversed through profit or loss.

Cost of materials amounted to €1,542m in the fiscal year (prior year: €1,493m).

## 17 Cash and cash equivalents

	30 SEP 17 € k	30 SEP 16 € k
Cash funds	461,139	448,468
Securities due in less than 90 days of their acquisition date	100,897	50,265
	<b>562,036</b>	<b>498,733</b>

Cash is composed of checks, cash on hand and cash at banks. The effective interest rate for cash at banks due in less than 90 days is mainly between -0.4% and 0.0% (prior year: 0.0% and 0.2%).

## 18 Equity

The *issued capital* of Carl Zeiss AG totaling €120,000k is unchanged compared to the prior year and is divided into 120,000,000 stocks at nominal value, all of which are held by the Carl Zeiss Foundation (Carl Zeiss Stiftung). A dividend of €25,000k was distributed in the reporting period (prior year: €12,500k).

The *capital reserves* are unchanged at €52,770k.

*Retained earnings* primarily contain:

- » the legal reserve of Carl Zeiss AG of €5,950k
- » the consolidated profit of the reporting year as well as the past results generated by the entities included in the consolidated financial statements less the associated non-controlling interests
- » the acquisition or sale of shares in subsidiaries currently under control

*Other reserves* present the differences arising from the currency translation of foreign subsidiaries' separate financial statements without effect on income as well as remeasurement effects recognized in equity:

- » defined benefit plans
- » financial assets from the category "available-for-sale"
- » derivative financial instruments used in hedge accounting, relating in this case to derivatives used in connection with cash flow hedges

*Non-controlling interests* contain the non-controlling interests in equity measured at their share in the net asset value.

In the reporting year, ZEISS and ASML Holding N.V., Veldhoven (Netherlands), intensified their long-standing partnership in the semiconductor business. In connection with this, ASML paid a purchase price of €1b for a non-controlling interest of 24.9% in Carl Zeiss SMT Holding GmbH & Co. KG and thus to participate in the business of the Semiconductor Manufacturing Technology segment. The proportionate share of the Semiconductor Manufacturing Technology segment came to €22m on the transaction date. The share of non-controlling interests in the ZEISS Group's equity increased accordingly. After taking tax effects into account, the resulting difference to the purchase price is included under other changes in retained earnings as well as the ZEISS Group's other reserves and increased these items by a total of €964m.

Furthermore, Carl Zeiss Meditec AG performed a capital increase in return for a cash contribution of €314m in March 2017. Since the stockholders' subscription rights were excluded pursuant to Sec. 186 (3) Sentence 4 AKtG, the capital increase fully reflects the share of non-controlling interests. The new shares are entitled to dividends for the past fiscal year 2015/16 and bear the same rights as the existing shares.

The development of consolidated equity is shown in the consolidated statement of changes in equity. The presentation is based on the requirements of IAS 1 *Presentation of Financial Statements*.

### **19 Provisions for pensions and similar obligations**

The provisions for pensions include current and future pension obligations of Carl Zeiss AG and various subsidiaries. In addition, this item comprises the provisions of the US entities for medical care benefit obligations.

The ZEISS Group has both defined contribution plans and defined benefit plans.

In the case of defined contribution plans, the obligation of the entity concerned is limited to the payment of the agreed amounts. The expenses for defined contribution plans amounted to €76,585k in the reporting period (prior year: €67,111k).

With defined benefit plans, the entity's obligation consists of fulfilling the commitments made to current and former employees and their surviving dependants. Such obligations exist both at group entities in Germany and other countries. In the ZEISS Group, defined benefit plans are partly funded via provisions and partly via external funds.

The obligations from defined benefit plans primarily relate to pension obligations in Germany, the USA and the UK.

The characteristics and the associated risks of the defined benefit plans vary depending on the legal, tax and economic framework in the respective country.

#### **German pension plans**

The currently applicable pension arrangement for employees in Germany is an employer-financed defined benefit plan, comprising old age, disability and surviving dependants' pensions. These pensions are generally granted after a period of service of at least 5 years.

The defined benefit plan is a modular system in which one pension module is calculated and fixed for each fiscal year. The contribution amount is based on the employee's income and the profit of the company during the fiscal year, with a basic contribution being guaranteed. The contribution is translated into a pension module on the basis of age- and interest-related factors. The pension modules acquired are aggregated and paid out as a life-long annuity.

For employees who were employed before 1 January 2000, vested rights from previous final-salary-based defined benefit plans must be taken into account for service periods up to 2010.

To reduce the risks associated with defined benefit plans (in particular longevity, salary increases and inflation), benefits are partly financed via external plan assets. To this end, a contractual trust arrangement (CTA) was introduced in Germany in fiscal year 2005/06, under which assets are transferred to a trust association such that they can be used only to settle the benefit obligations of the active employees. These assets satisfy the criteria set forth in IAS 19 for plan assets and can therefore be offset against the benefit obligations in these consolidated financial statements. Where the assets exceed the underlying secured claims, the excess is reported under non-current financial assets.

In addition to the employer-financed pensions, all employees in Germany have the option of participating in the company pension scheme in the form of deferred compensation. This is a defined contribution plan financed by converting salary components, for which the company takes out employer's pension liability insurance.

#### Pension plans outside Germany

Major pension plans exist primarily in the USA and the UK. These are employer-financed defined benefit plans, comprising old age and surviving dependants' benefits as well as medical benefits, depending on how they are structured. Some of these plans are based on final salary, while others are based on salary-related modules. The obligations from foreign defined benefit obligations are largely covered by assets in long-term external funds. The plans in the USA and in the UK are closed to new employees and existing obligations are now capped.

Actuarial assumptions are essential for all defined benefit plans. Besides life expectancy, which in Germany is determined based on the 2005 G mortality tables published by Prof. Dr. Klaus Heubeck, and in other countries on comparable local measurement bases, the following assumptions were made for the purposes of the actuarial calculations:

	Germany		Other countries	
	2016/17	2015/16	2016/17	2015/16
	%	%	%	%
Interest rate	2.00	1.30	0.42 to 7.00	0.36 to 6.50
Future salary increases	2.75	2.75	0.00 to 5.00	0.00 to 5.00
Future pension increases	1.75	1.75	0.00 to 3.45	0.00 to 4.50

The assumptions regarding interest rates, future salary and pension increases as well as mortality rates on which the calculation of the defined benefit obligation (DBO) was based vary depending on economic and other conditions in the country in which the plans exist. The interest rates were determined on an entity-specific basis as of the respective reporting date, depending on the weighted average duration of the pension obligations and in line with the respective maturities and currencies.

The amounts for defined benefit obligations recognized in the statement of financial position break down as follows:

	30 SEP 17			
	Defined benefit obligations (DBO)	Fair value of plan assets	Effects of the asset ceiling	Net carrying amount from defined benefit obligations
	€ k	€ k	€ k	€ k
Germany	2,274,566	1,189,230	0	1,085,336
Other countries	310,662	219,663	5,809	96,808
<b>Carrying amount</b>	<b>2,585,228</b>	<b>1,408,893</b>	<b>5,809</b>	<b>1,182,144</b>
» thereof pension provisions				1,184,589
» thereof other financial assets				2,445

	Defined benefit obligations (DBO)	Fair value of plan assets	Effects of the asset ceiling	30 SEP 16 Net carrying amount from defined benefit obligations
	€ k	€ k	€ k	€ k
Germany	2,562,134	975,315	0	1,586,819
Other countries	345,140	215,486	1,027	130,681
<b>Carrying amount</b>	<b>2,907,274</b>	<b>1,190,801</b>	<b>1,027</b>	<b>1,717,500</b>
» thereof pension provisions				1,718,558
» thereof other financial assets				1,058

The reconciliation from the funded status to the amounts recognized in the consolidated statement of financial position is as follows:

	30 SEP 17 € k	30 SEP 16 € k
Present value of funded pension obligations	1,668,239	1,966,729
Plan assets	1,408,893	1,190,801
<b>Funded status (net)</b>	<b>259,346</b>	<b>775,928</b>
<b>Present value of unfunded pension obligations</b>	<b>916,989</b>	<b>940,545</b>
Adjustment on account of asset ceiling	5,809	1,027
<b>Carrying amount</b>	<b>1,182,144</b>	<b>1,717,500</b>
» thereof pension provisions	1,184,589	1,718,558
» thereof other financial assets	2,445	1,058

Pension provisions developed as follows:

	2016/17 € k	2015/16 € k
<b>1 October</b>	<b>1,718,558</b>	<b>1,482,746</b>
<b>Recognized through profit or loss</b>		
Service cost	54,244	35,912
Net interest cost	23,590	35,430
<b>Recognized in other comprehensive income</b>		
Benefits paid	-71,830	-70,881
Remeasurements	-368,805	450,610
Employer contributions	-168,417	-218,316
Exchange differences on translation	-6,095	2,548
Other	3,344	509
<b>30 September</b>	<b>1,184,589</b>	<b>1,718,558</b>

Service cost is recorded in functional costs; net interest cost is recorded in the financial result.

The present value of the defined benefit obligations developed as follows during the reporting periods:

	2016/17	2015/16
	€ k	€ k
<b>1 October</b>	<b>2,907,274</b>	<b>2,428,011</b>
Service cost	54,244	35,912
Interest cost	42,080	59,596
Benefits paid	-83,769	-86,055
Remeasurements		
» Actuarial gains/losses as a result of changes in demographic assumptions	435	-5,708
» Actuarial gains/losses as a result of changes in financial assumptions	-357,478	527,169
» Actuarial gains/losses as a result of experience adjustments	36,859	-26,920
Exchange differences on translation	-15,641	-11,706
Other	1,224	-13,025
<b>30 September</b>	<b>2,585,228</b>	<b>2,907,274</b>

The present value of the defined benefit obligations is attributable to:

	30 SEP 17	30 SEP 16
	€ k	€ k
Active employees	1,242,513	1,439,046
Former employees with vested rights	234,889	268,521
Pensioners	1,107,826	1,199,707
	<b>2,585,228</b>	<b>2,907,274</b>

A detailed reconciliation of the change in the fair value of plan assets is presented in the table below:

	2016/17	2015/16
	€ k	€ k
<b>1 October</b>	<b>1,190,801</b>	<b>950,491</b>
Interest income	18,516	24,315
Remeasurements	53,065	41,302
Employer contributions	168,417	218,316
Employee contributions	242	214
Withdrawals for benefit payments	-11,939	-15,174
Exchange differences on translation	-9,546	-14,254
Other	-663	-14,409
<b>30 September</b>	<b>1,408,893</b>	<b>1,190,801</b>

Employer contributions contain the special allocation to plan assets of €155m made in the reporting year in Germany.

The actuarial gains/losses from the DBO and the remeasurement of the plan assets are recognized in other comprehensive income.

The other changes to the DBO and plan assets in the prior year relate above all to a closed foreign pension plan.

Employer contributions to plan assets for the following fiscal year are expected to amount to €3,404k.

These plan assets are used exclusively to settle the defined benefit obligations. The funding of these benefit obligations serves to cover future cash outflows as required by law in some countries and made on a voluntary basis in others.

Giving special consideration to the type of the underlying obligations, the assets transferred in Germany to Carl Zeiss Pensions-Treuhand e. V. are to be invested in the interest of the beneficiaries so as to maximize security and profitability while ensuring liquidity at all times. The objective of the investment is the long-term ability to fulfill the obligation.

The plan assets in the CTA are managed using an absolute return approach with the objective of achieving an attractive return over the investment horizon in order to earn the interest cost of the pension liabilities while controlling and limiting short-term risks. The target return is derived as a deterministic figure from the obligations.

Dynamic risk management aims to decrease the risks of potential losses in relation to strategic asset allocation (SAA) while generating a return comparable to the SAA over the course of a market cycle. The exposures of the asset classes are managed by means of derivatives on an annual basis using defined allocation ranges and taking into account a risk budget.

The portfolio of plan assets consists of the following components:

	30 SEP 17	30 SEP 16
	€ k	€ k
Stocks and stock funds	460,923	335,278
Pensions and pension funds	531,613	464,212
Real estate and real estate funds	10,475	11,427
Cash and cash equivalents	220,888	238,968
Other assets	184,994	140,916
	<b>1,408,893</b>	<b>1,190,801</b>

Price quotations for the stocks and stock funds as well as pensions and pension funds are almost exclusively in an active market; for the other investments, there are no market quotations.

Changes in the relevant actuarial assumptions would have had the following effects on the defined benefit obligation as of the reporting date:

	30 SEP 17	
	Increase by 0.5%	Decrease by 0.5%
	€ k	€ k
Change in the present value of the defined benefit obligations (DBO)		
Interest rate	-225,099	260,797
Future salary increases	33,376	-29,650
Future pension increases	115,474	-105,652

A 1-year increase in life expectancy would lead to an increase of €123,367k in the present value of the defined benefit obligations.

The sensitivity analyses presented take into account *ceteris paribus* the change of a parameter, while retaining the calculation method.

To examine the sensitivity of the DBO with regard to a change in the assumed life expectancy, the mortality rates used were reduced in a comparative calculation so that the decrease results in an increase in life expectancy of roughly 1 year.

For the defined benefit obligations as of the reporting date, the following pension payments are forecast for the next 10 years, with the expected benefit payments being partly funded via plan assets:

Maturity profile of defined benefit obligations Estimated benefit payments for the coming fiscal years	€ k
Fiscal year 2017/18	81,177
Fiscal year 2018/19	83,107
Fiscal year 2019/20	85,757
Fiscal year 2020/21	87,641
Fiscal year 2021/22	89,502
Fiscal years 2022/23 up to and including 2026/27	469,289

The average weighted duration of the pension plans is about 20 years in Germany, about 14 years in the USA and about 19 years in the UK.

## 20 Other provisions

	30 SEP 17		30 SEP 16	
	thereof due within 1 year		thereof due within 1 year	
	€ k	€ k	€ k	€ k
Provisions for income taxes	77,028	77,028	70,800	70,800
Provisions for personnel-related obligations	39,122	18,848	46,251	23,507
Provisions for sales-related obligations	127,166	105,171	103,828	94,251
Sundry other provisions	245,028	74,370	224,204	58,906
	<b>488,344</b>	<b>275,417</b>	<b>445,083</b>	<b>247,464</b>

Provisions for income taxes comprise amounts for taxes that have not yet been finally assessed.

Provisions for personnel-related obligations contain phased retirement obligations, long-service awards and early retirement arrangements, the timing and/or amount of which cannot yet be precisely determined. Provisions for sales-related obligations principally relate to warranty obligations and services still to be rendered. Sundry other provisions include provisions for environmental risks, legal costs and restructuring.

	1 OCT 16	Utilization	Reversal	Additions, including reclassifications	Unwinding of the discount and effects from changes in the discount factor	Exchange differences	30 SEP 17
	€ k	€ k	€ k	€ k	€ k	€ k	€ k
Provisions for income taxes	70,800	-71,299	-2,361	79,859	0	29	77,028
Provisions for personnel-related obligations	46,251	-17,013	-1,008	11,216	20	-344	39,122
Provisions for sales-related obligations	103,828	-42,778	-6,313	75,261	0	-2,832	127,166
Sundry other provisions	224,204	-17,167	-7,858	47,215	-13	-1,353	245,028
	<b>445,083</b>	<b>-148,257</b>	<b>-17,540</b>	<b>213,551</b>	<b>7</b>	<b>-4,500</b>	<b>488,344</b>

## 21 Financial liabilities

	30 SEP 17			30 SEP 16		
	thereof due within 1 year		thereof due in more than 5 years	thereof due within 1 year		thereof due in more than 5 years
	€ k	€ k	€ k	€ k	€ k	€ k
Liabilities to banks	215,135	23,319	27,500	227,546	27,419	28,336
Loans	52,552	52,552	0	48,852	48,852	0
Derivatives	8,711	7,765	0	21,523	21,523	0
Lease liabilities	6,863	3,157	0	10,113	3,096	0
Other financial liabilities	60,047	49,987	0	49,850	26,749	0
	<b>343,308</b>	<b>136,780</b>	<b>27,500</b>	<b>357,884</b>	<b>127,639</b>	<b>28,336</b>

### Liabilities to banks

Promissory notes of €200m were placed in prior years, €102m of which was subject to floating interest rates and €98m to fixed interest rates. The part subject to floating interest rates of €69m was prolonged for a term of 5 years and partially refinanced at new conditions in June 2016. The part of €33m that was not prolonged was repaid to the investors. The terms of the promissory notes totaling €167m break down as follows:

- » €72m with a term of 5 years,
- » €67.5m with a term of 7 years,
- » €27.5m with a term of 10 years.

Of this amount, a total of €69m is subject to floating interest rates and €98m to fixed interest rates.

As of 16 July 2014, Carl Zeiss AG concluded a revolving credit facility with a volume of €500m and a term of 5 years with a syndicate of banks. The credit facility includes an option of extending on 2 occasions, by 1 year in each case. The second extension option was exercised on 17 May 2016, so that the extended maturity date is 16 July 2021. The revolving credit facility serves as a strategic liquidity reserve for the ZEISS Group, of which €29.7m was drawn in the reporting period (prior year €22.6m) to fund activities in other countries.

An annuity loan of €45m was borrowed from Kreditanstalt für Wiederaufbau by agreement dated 20 January 2012. The loan is subject to fixed interest, is repaid in quarterly installments of €1,417k from 31 March 2014 to 30 December 2021 and has a residual carrying amount of €24,084k as of the reporting date.

### **Lease liabilities**

The finance lease liabilities are detailed in note 27 Leases.

### **Other financial liabilities**

#### **Profit participation capital**

The Annual General Meeting of Carl Zeiss AG adopted a resolution on 19 March 2012 authorizing the Executive Board to issue profit participation rights in the fiscal years 2011/12 through to 2015/16 for a total amount of up to €25,000k. As of the reporting date, these comprise participation certificates of the 2012-D, 2013-D, 2014-D, 2015-D and 2016-D series, each with a term of 5 years and a nominal volume totaling €12,675k.

In accordance with the terms and conditions of the participation certificates, they are subject to graded interest rates (0% to 20%) depending on the ZEISS Group's return on sales.

The Annual General Meeting of Carl Zeiss AG adopted a resolution on 13 March 2017 authorizing the Executive Board to continue issuing profit participation certificates in the fiscal years from 2016/17 up to and including 2020/21 for a total amount of up to €25,000k.

In accordance with the terms and conditions of the participation certificates, they are subject to graded interest rates (0% to 16%) depending on the ZEISS Group's margin on its net income for the year.

The recipients are the employees of Carl Zeiss AG and its affiliates in Germany and abroad. In addition, the boards of foreign group entities are authorized to issue similar rights to employees not eligible for the Carl Zeiss AG profit participation offer.

The terms and conditions of the participation certificates provide for termination rights for either party only in very limited exceptions.

For more information on the contractually agreed undiscounted cash outflows from the non-derivative financial liabilities and derivative financial instruments, please refer to note 23 Financial instruments and risk management.

### **22 Other non-financial liabilities**

	<b>30 SEP 17</b>		<b>30 SEP 16</b>	
			thereof due within 1 year	thereof due within 1 year
	€ k	€ k	€ k	€ k
Advances received on account of orders	550,969	550,333	511,528	511,528
Personnel-related obligations	345,560	345,560	305,721	305,721
Sales-related obligations	273,390	273,390	264,848	264,848
Deferred income	144,501	113,029	143,406	107,307
Sundry other non-financial liabilities	114,091	112,137	102,801	100,855
	<b>1,428,511</b>	<b>1,394,449</b>	<b>1,328,304</b>	<b>1,290,259</b>

The accruals for sales-related obligations mainly relate to outstanding invoices and bonus and commission payments.

## 23 Financial instruments and risk management

As a global player, the ZEISS Group is exposed to credit risks, liquidity risks and market risks (currency, interest rate and other market risks) as part of its ordinary activities.

### Credit risk

Credit risk stems from an adverse development in the economic conditions of the company's counterparties or borrowers and lies primarily in trade receivables. There is the threat of non-performance on the part of a contractual party. The maximum credit risk position of the ZEISS Group is equivalent to the carrying amounts of the financial instruments disclosed as financial assets and the guarantees issued to non-consolidated group entities. The risks are minimized by obtaining collateral, gathering credit ratings/references or analyzing track records of prior business relations, particularly payment behavior. The most frequent form is the retention of title. Impairment losses are recognized for any credit risks associated with the financial assets.

The table below provides information on the credit risks contained in trade and other receivables:

	30 SEP 17 € k	30 SEP 16 € k
<b>Trade and other receivables (gross)</b>	<b>1,164,123</b>	<b>1,028,410</b>
(Portfolio-based) valuation allowance	37,765	29,672
Allowance for exchange differences	144	1,586
<b>Trade and other receivables (net)</b>	<b>1,126,502</b>	<b>1,000,324</b>
» thereof due in more than 1 year	35,879	30,640

As of 30 September 2017, trade and other receivables include receivables of €29,741k (prior year: €20,600k) from long-term construction contracts billed according to the percentage-of-completion method and finance lease receivables of €11,807k (prior year: €11,397k).

Revenue of €69,861k (prior year: €57,050k) was recognized from construction contracts in the reporting period. The total costs incurred plus recognized profits less recognized losses for the projects ongoing as of the reporting date amount to €69,861k (prior year: €57,050k). Advances received of €1,227k (prior year: €1,563k) have already been taken into account in the settlement of construction contracts. As of 30 September 2017, security retentions by customers for construction contracts amounted to €3,146k (prior year: €3,102k).

Identifiable credit risks are accounted for by specific allowances as well as portfolio-based allowances on trade and other receivables. These bad debt allowances developed as follows:

	2016/17 € k	2015/16 € k
<b>1 October</b>	<b>29,672</b>	<b>23,168</b>
Change in the basis of consolidation	0	0
Utilization	-2,745	-4,952
Reversal	-5,561	-3,589
Additions, including reclassifications	17,151	14,205
Exchange rate effects	-752	840
<b>30 September</b>	<b>37,765</b>	<b>29,672</b>

The table below provides information on trade and other receivables that are not impaired:

	30 SEP 17 € k	30 SEP 16 € k
<b>Trade and other receivables (net)</b>	<b>1,126,502</b>	<b>1,000,324</b>
» thereof neither impaired nor past due as of the reporting date	816,316	707,461
» thereof not impaired as of reporting date but past due by the following time periods:		
» up to 30 days	146,732	117,936
» 31 to 90 days	49,633	45,704
» 91 to 180 days	36,152	36,980
» 181 to 365 days	17,989	13,662
» 366 days and more	19,952	28,168

With regard to trade and other receivables which are neither impaired nor past due, there are no indications that defaults will occur that will lead to a reduction in assets.

The table below provides information on the offsetting of primary financial instruments and the resulting limit to the credit risk:

	30 SEP 17 € k	30 SEP 16 € k
Trade and other receivables (before offsetting)	1,163,827	1,066,956
Offsetting of credit notes issued	37,325	66,632
<b>Remaining credit risk</b>	<b>1,126,502</b>	<b>1,000,324</b>

The following offsetting of derivative financial instruments would be possible in the event of insolvency at a counterparty:

	30 SEP 17 € k	30 SEP 16 € k
Derivatives with a positive market value	41,245	9,443
Amount available for offsetting in the event of insolvency	7,695	6,121
<b>Remaining credit risk</b>	<b>33,550</b>	<b>3,322</b>

Another credit risk is connected to the investment of cash if the banks not be able to meet their obligations. This risk is diversified by investing at different banks, defining limits per asset class and issuer, and applying high rating standards to business partners.

## Liquidity risk

The liquidity risk of the ZEISS Group is the risk that it may not be able to meet its financial obligations (to repay financial liabilities or make interest payments).

The cash that serves this risk is generated primarily by operations. Where necessary or where it makes sense for strategic reasons, external sources of finance are drawn on in addition. Carl Zeiss Meditec AG also has the possibility of raising equity funds on the capital market.

For further details on financial liabilities, please refer to note 21 Financial liabilities.

The table below provides information on the offsetting of trade payables and the resulting limit to the liquidity risk:

	30 SEP 17	30 SEP 16
	€ k	€ k
Trade payables (before offsetting)	370,513	305,239
Offsetting of credits notes issued	8,446	8,081
<b>Remaining liquidity risk</b>	<b>362,067</b>	<b>297,158</b>

The following offsetting of derivative financial instruments with a negative market value would be possible in the event of insolvency at a counterparty:

	30 SEP 17	30 SEP 16
	€ k	€ k
Derivatives with a negative market value	8,711	21,523
Amount available for offsetting in the event of insolvency	7,695	6,121
<b>Remaining liquidity risk</b>	<b>1,016</b>	<b>15,402</b>

Liquidity is ensured by means of ongoing, groupwide liquidity monitoring and budgeting and a diversified investment policy that takes into account the terms to maturity and is implemented by Carl Zeiss Financial Services GmbH on a groupwide scale. A revolving credit facility was arranged for this purpose in the fiscal year 2013/14.

The available liquidity as well as the revolving credit facility give the ZEISS Group adequate flexibility to cover the Group's refinancing needs. The ZEISS Group is not subject to any concentration risk thanks to the diverse nature of its financing sources and its cash and cash equivalents.

The table below shows the contractually agreed undiscounted cash outflows for non-derivative financial liabilities:

	Undiscounted cash outflows			Total 30 SEP 17 € k
	due within 1 year € k	due in 1 to 5 years € k	due in more than 5 years € k	
Trade payables	360,997	840	230	<b>362,067</b>
Financial liabilities				
» Liabilities to banks	27,002	177,395	29,563	<b>233,960</b>
» Loans	52,683	0	0	<b>52,683</b>
» Lease liabilities	3,642	3,951	0	<b>7,593</b>
» Other financial liabilities	52,262	10,060	0	<b>62,322</b>
Guarantees	10,456	0	0	<b>10,456</b>

	Undiscounted cash outflows			Total 30 SEP 16 € k
	due within 1 year € k	due in 1 to 5 years € k	due in more than 5 years € k	
Trade payables	297,158	0	0	<b>297,158</b>
Financial liabilities				
» Liabilities to banks	29,218	188,754	32,031	<b>250,003</b>
» Loans	49,095	0	0	<b>49,095</b>
» Lease liabilities	3,828	7,794	0	<b>11,622</b>
» Other financial liabilities	28,519	23,101	0	<b>51,620</b>
Guarantees	10,548	0	0	<b>10,548</b>

The table below shows the contractually agreed undiscounted cash outflows for derivative financial instruments with a negative market value:

	Undiscounted cash outflows			Total 30 SEP 17 € k
	due within 1 year € k	due in 1 to 5 years € k	due in more than 5 years € k	
Derivative financial liabilities settled on a gross basis				
» Cash outflows	558,119	0	0	<b>558,119</b>
» Cash inflows	547,488	0	0	<b>547,488</b>

	Undiscounted cash outflows			Total 30 SEP 16 € k
	due within 1 year € k	due in 1 to 5 years € k	due in more than 5 years € k	
Derivative financial liabilities settled on a gross basis				
» Cash outflows	537,497	0	0	<b>537,497</b>
» Cash inflows	513,789	0	0	<b>513,789</b>

## **Market risk**

The operations of the ZEISS Group are exposed to market price risks due to changes in exchange rates and interest rates. Business policy aims to minimize these risks by means of hedging. All hedging transactions are implemented at corporate level.

From an operating perspective, hedging rates are set for all relevant currencies. All business is transacted in compliance with the principle of strict separation of duties between front office (trading), middle office (financial risk management) and back office (settlement, documentation).

## **Exchange rate risk**

On account of its global orientation, the ZEISS Group is primarily exposed to exchange rate risks in operations whenever revenue is generated or goods are purchased in a currency other than the currency in which the associated costs are incurred. This risk is mainly in relation to the US dollar, the Japanese yen, the pound sterling and the Chinese renminbi.

In order to reduce the effect of exchange rate fluctuations on operations, foreign exchange risks are mostly hedged using standard currency options and forward exchange contracts concluded with banks with excellent credit ratings.

For risk management and monitoring purposes value-at-risk analyses, supplemented by scenario, sensitivity and stress test analyses, are used to quantify exchange rate risks. These risk analyses are reported monthly to the Group's Executive Board.

The value-at-risk analysis is used to regularly assess the risk position from changes in exchange rates by calculating the maximum loss for a certain confidence level and retention period. Value at risk is determined on the basis of historical data and taking into account correlation between the transactions analyzed. The value at risk determined then shows the maximum loss that will not be exceeded over a period of 10 days with a probability of 95% (historical simulation).

In the past fiscal year, value at risk decreased compared to the prior year to €0.8m (prior year: €4.1m).

## **Interest rate risk**

Interest rate risk arises from fluctuations in market interest rates.

These changes can affect both earnings (cash flow risk) and any fluctuations in the value of financial instruments (fair value risk). The ZEISS Group has various interest-sensitive assets and liabilities and therefore has interest rate exposure from its asset and liability management.

The interest rate risk is analyzed and managed centrally by Carl Zeiss Financial Services GmbH. The ZEISS Group has the following cash flow and fair value risks based on its floating-rate and fixed-rate instruments in this context.

Cash flow risk: A change of +/- 50 base points would have an effect of +/- €7.1m on profit or loss (prior year: + €3.6m/- €3.9m). A change of +/- 50 base points would have no effect on equity.

Fair value risk: Assuming a change of +/- 50 base points, the fixed-rate instruments held by the ZEISS Group as available-for-sale financial instruments would have an effect of -/+ €1.0m on equity (prior year: +/- €0.2m).

The ZEISS Group is not exposed to material other price risks.

### **Book values, carrying amounts and fair values by category**

The table below presents the carrying amounts and fair values of the financial instruments accounted for by measurement category.

				30 SEP 17	
		Carrying amount	(Amortized) cost	Amount recognized pursuant to IAS 17	Fair value
	Categories of IAS 39	€ k	€ k	€ k	€ k
Trade and other receivables	LaR/n.a.	1,126,502	1,114,695	11,807	*
Other financial assets					
» Shares in affiliates	AfS	33,734	33,734		*
» Investments	Afs	1,642	1,642		*
» Loans	LaR	43,820	43,820		*
» Securities	AfS	240,627			240,627
» Derivatives	FVtPL	41,245			41,245
» Derivatives used for hedging	n.a.	0			0
» Other financial assets	LaR	1,506,592			1,523,612
Cash and cash equivalents	LaR	562,036	562,036		*
<b>Financial assets</b>		<b>3,556,198</b>	<b>1,755,927</b>	<b>11,807</b>	<b>1,805,484</b>
Trade payables	FLAC	362,067	362,067		*
Other financial liabilities					
» Liabilities to banks	FLAC	215,135			237,624
» Loans	FLAC	52,552	52,552		*
» Derivatives	FVtPL	8,711			8,711
» Derivatives used for hedging	n.a.	0			0
» Lease liabilities	n.a.	6,863		6,863	7,509
» Other financial liabilities	FLAC	60,047	60,047		*
<b>Financial liabilities</b>		<b>705,375</b>	<b>474,666</b>	<b>6,863</b>	<b>253,844</b>
<hr/>					
Aggregated by measurement category in accordance with IAS 39					
Loans and receivables	LaR	3,238,950	1,720,551		
Financial assets at fair value through profit or loss	FVtPL	41,245			41,245
Available-for-sale financial assets	AfS	276,003	35,376		240,627
Financial liabilities at amortized cost	FLAC	689,801	474,666		237,624
Financial liabilities held for trading	FVtPL	8,711			8,711

				30 SEP 16
		Carrying amount	(Amortized) cost	Amount recognized pursuant to IAS 17
	Categories of IAS 39	€ k	€ k	€ k
Trade and other receivables	LaR/n.a.	1,000,324	988,927	11,397
Other financial assets				*
» Shares in affiliates	Afs	12,031	12,031	*
» Investments	Afs	1,487	1,487	*
» Loans	LaR	28,322	28,322	*
» Securities	Afs	133,420		133,420
» Derivatives	FVtPL	9,437		9,437
» Derivatives used for hedging	n.a.	6		6
» Other financial assets	LaR	268,586	268,586	*
Cash and cash equivalents	LaR	498,733	498,733	*
<b>Financial assets</b>		<b>1,952,346</b>	<b>1,798,086</b>	<b>11,397</b>
Trade payables	FLAC	297,158	297,158	*
Other financial liabilities				
» Liabilities to banks	FLAC	227,546		247,169
» Loans	FLAC	48,852	48,852	*
» Derivatives	FVtPL	13,436		13,436
» Derivatives used for hedging	n.a.	8,087		8,087
» Lease liabilities	n.a.	10,113		10,113
» Other financial liabilities	FLAC	49,850	49,850	*
<b>Financial liabilities</b>		<b>655,042</b>	<b>395,860</b>	<b>10,113</b>
Aggregated by measurement category in accordance with IAS 39				
Loans and receivables	LaR	1,795,965	1,784,568	
Financial assets at fair value through profit or loss	FVtPL	9,437		9,437
Available-for-sale financial assets	Afs	146,938	13,518	133,420
Financial liabilities at amortized cost	FLAC	623,406	395,860	247,169
Financial liabilities held for trading	FVtPL	13,436		13,436

\* The fair value approximately corresponds to the carrying amount

As of the reporting date, there is no intention to sell any of the significant investments.

### Fair value measurement

Financial instruments are measured at fair value based on a 3-level fair value hierarchy:

Level 1: Fair value is calculated based on the quoted, unadjusted market prices on active markets.

Level 2: Fair value is calculated based on market data such as stock prices, exchange rates or interest curves pursuant to market-based valuation techniques (e.g. present value method or option pricing models).

Level 3: Fair value is calculated based on models with non-observable market data.

The decision on classification is made on the reporting date.

The table below shows the fair values of financial instruments as well as their respective classification:

<b>Fair value</b>		<b>30 SEP 17</b>			
		Level 1 € k	Level 2 € k	Level 3 € k	Total € k
Securities	121,024		119,603	0	240,627
Derivatives	0		41,245	0	41,245
Derivatives used for hedging	0		0	0	0
Sundry other financial assets	0		1,523,612	0	1,523,612
<b>Financial assets</b>	<b>121,024</b>		<b>1,684,460</b>	<b>0</b>	<b>1,805,484</b>
Liabilities to banks	0		237,624	0	237,624
Lease liabilities	0		7,509	0	7,509
Derivatives	0		8,711	0	8,711
Derivatives used for hedging	0		0	0	0
<b>Financial liabilities</b>	<b>0</b>		<b>253,844</b>	<b>0</b>	<b>253,844</b>
<b>Fair value</b>		<b>30 SEP 16</b>			
		Level 1 € k	Level 2 € k	Level 3 € k	Total € k
Securities	74,914		58,506	0	133,420
Derivatives	0		9,437	0	9,437
Derivatives used for hedging	0		6	0	6
<b>Financial assets</b>	<b>74,914</b>		<b>67,949</b>	<b>0</b>	<b>142,863</b>
Liabilities to banks	0		247,169	0	247,169
Lease liabilities	0		11,449	0	11,449
Derivatives	0		13,436	0	13,436
Derivatives used for hedging	0		8,087	0	8,087
<b>Financial liabilities</b>	<b>0</b>		<b>280,141</b>	<b>0</b>	<b>280,141</b>

In the current fiscal year, securities of €4,528k were reclassified from level 1 to level 2 on account of changed price sources.

The development of financial instruments allocated to level 3 of the fair value hierarchy is presented in the table below:

	2016/17	2015/16
	€ k	€ k
<b>1 October</b>	<b>0</b>	<b>1,781</b>
Additions	0	0
Changes in fair value recognized through profit or loss	0	0
Changes in fair value recognized in other comprehensive income	0	0
Disposals	0	1,788
Exchange rate effects	0	7
<b>30 September</b>	<b>0</b>	<b>0</b>

### Net gain or loss

The effects of financial instruments recognized in the income statement are presented on a net basis in the table below by category as defined in IAS 39 *Financial Instruments: Recognition and Measurement*:

	2016/17			
	thereof from interest	thereof from subsequent measurement	thereof from disposals	
	€ k	€ k	€ k	€ k
Loans and receivables	-18,568	6,038	-24,575	-31
Available-for-sale financial assets	138	731	-2,539	1,946
Financial assets and liabilities at fair value through profit or loss	38,009	0	32,683	5,326
Financial liabilities measured at amortized cost	-12,073	-12,284	211	0

	2015/16			
	thereof from interest	thereof from subsequent measurement	thereof from disposals	
	€ k	€ k	€ k	€ k
Loans and receivables	10,886	4,826	6,108	-48
Available-for-sale financial assets	-11,929	1,505	-13,115	-319
Financial assets and liabilities at fair value through profit or loss	-24,854	-8,465	-3,933	-12,456
Financial liabilities measured at amortized cost	-7,629	-16,184	8,555	0

The interest and currency result from the measurement of receivables and loans is reported in the "Loans and receivables" category under net gain or loss. The gains or losses from the measurement and realization of securities and investments are presented in the "Available-for-sale financial assets" category. The "Financial assets and liabilities at fair value through profit or loss" category contains the gains or losses from the measurement of derivatives. The interest and currency result from the measurement of liabilities is recognized in the "Financial liabilities measured at amortized cost" category.

### Hedge accounting

Forward exchange contracts were concluded in order to hedge the currency exposure from forecast revenue in a project business transaction of US\$1.8m. These forward exchange contracts were designated as cash flow hedges in compliance with the requirements for hedge accounting. The ineffective portion of the currency hedges was included in the income and expenses from changes in market value. The planned revenue is no longer expected to occur, meaning that the amounts recognized in other comprehensive income were reclassified in the financial result with an effect on income.

	30 SEP 17 € k	30 SEP 16 € k
Fair value of hedge	0	6
Recognized in other comprehensive income	0	-117
Reclassified through profit or loss	391	775

Forward exchange contracts were held to hedge a portion of the translation risk of the net investment in Japanese yen. These forward exchange contracts were designated as a hedge of net investments in compliance with the requirements for hedge accounting. The forward exchange contracts had a fair value of €-8,087k in the prior year and expired on 28 April 2017. The effective portion of the hedges of €-3.7m recognized in other comprehensive income remains in equity until the disposal or partial disposal of the net investment.

No reporting of hedge accounting for hedging relationships designed to hedge exposure from changes in cash flows arising from fluctuation in exchange rates was reported as of the reporting date.

### OTHER NOTES

#### 24 Notes to the statement of cash flows

The consolidated statement of cash flows shows how the cash and cash equivalents reported in the statement of financial position of the ZEISS Group changed in the course of the fiscal year as a result of cash received and paid. In accordance with IAS 7 *Statement of Cash Flows*, a distinction is made between cash flows from operating activities, investing activities and financing activities.

The cash flows from investing activities and financing activities are determined on the basis of payments made or received. The cash flows from operating activities, on the other hand, are derived indirectly from the consolidated profit or loss for the year. When performing the indirect calculation, changes in items of the statement of financial position considered in connection with operating activities are adjusted for effects from currency translation and changes in the basis of consolidation. Non-cash effects are likewise eliminated. Changes in the items of the statement of financial position concerned can therefore not be reconciled with the figures based on the published consolidated statement of financial position.

## 25 Contingent liabilities and assets

	30 SEP 17 € k	30 SEP 16 € k
Liabilities from guarantees	10,456	10,548
Other contingent liabilities	371	104

The other contingent liabilities and the liabilities from guarantees were not recognized as provisions because the probability of an outflow of resources is considered remote.

## 26 Average headcount for the year

	2016/17 Number	2015/16 Number
Germany	10,721	10,451
EMEA (without Germany)	3,862	3,676
Americas	6,161	6,135
APAC	5,076	4,576
	<b>25,820</b>	<b>24,838</b>
Trainees	360	409
<b>Total</b>	<b>26,180</b>	<b>25,247</b>

Part-time employees and temporary employees are included proportionately.

Personnel expenses amounted to €1,837m in the reporting period (prior year: €1,693m).

## 27 Leases

### Operating leases – the Group as the lessee

The Group has entered into lease agreements for office space and office equipment. The contracts have terms of between 1 and more than 5 years and some contain renewal and purchase options as well as price adjustment clauses.

Other expenses from rental, lease and similar agreements for the reporting period break down as follows:

	2016/17 € k	2015/16 € k
Minimum lease payments	69,264	55,113
» thereof sale-and-leaseback	8,718	1,289
Contingent rent	2,068	2,939
» thereof sale-and-leaseback	0	0
Sublease payments	56	44
» thereof sale-and-leaseback	0	0
	<b>71,388</b>	<b>58,096</b>

By maturity band, future minimum rent and lease payments under non-cancellable operating leases are as follows:

<b>Term to maturity</b>	<b>2016/17</b>		<b>2015/16</b>	
	€ k		€ k	
Less than 1 year	46,967		38,442	
» thereof sale-and-leaseback	8,885		1,635	
Between 1 and 5 years	93,361		74,713	
» thereof sale-and-leaseback	14,214		4,243	
More than 5 years	23,700		21,166	
» thereof sale-and-leaseback	12		61	

### **Operating leases – the Group as the lessor**

The Group has entered into lease agreements mainly for office space and technical equipment with future minimum lease payments receivable from non-cancellable operating leases with the following terms:

<b>Term to maturity</b>	<b>2016/17</b>		<b>2015/16</b>	
	€ k		€ k	
Less than 1 year	11,809		4,198	
Between 1 and 5 years	18,242		13,413	
More than 5 years	18		4	

### **Finance leases – the Group as the lessee**

The ZEISS Group has entered into finance leases for various fixed assets, mainly including buildings.

The carrying amounts of these fixed assets contain the following amounts from finance leases under which the ZEISS Group is the lessee:

<b>Term to maturity</b>	<b>2016/17</b>		<b>2015/16</b>	
	€ k		€ k	
Land and buildings	3,196		4,658	
» thereof sale-and-leaseback	2,131		3,422	
Technical equipment and machinery	140		236	
» thereof sale-and-leaseback	0		0	
Other equipment and machinery	698		819	
» thereof sale-and-leaseback	0		0	

On 28 September 1999, the company sold and leased back land, buildings and leasehold improvements in Dublin (USA). The sale-and-leaseback transaction qualifies as a finance lease under IAS 17 *Leases*. The lease has a term of 20 years. The lessee has the right to extend the term twice by 5 years at a time at the end of the original term of the lease in 2019. In addition, the lease contains a clause increasing the lease payments by 13% every 5 years. The land, buildings and leasehold improvements with a carrying amount of €2,131k (prior year: €3,422k) continue to be carried and depreciated by the lessee.

Finance lease liabilities are due as follows:

		30 SEP 17		
		thereof due within 1 year	thereof due in 1 to 5 years	thereof due in more than 5 years
	€ k	€ k	€ k	€ k
Future minimum lease payments	7,593	3,642	3,951	0
» thereof sale-and-leaseback	6,718	3,284	3,434	0
Interest portion	730	485	245	0
» thereof sale-and-leaseback	668	436	232	0
<b>Present value of future minimum lease payments</b>	<b>6,863</b>	<b>3,157</b>	<b>3,706</b>	<b>0</b>
» thereof sale-and-leaseback	6,050	2,848	3,202	0
		30 SEP 16		
		thereof due within 1 year	thereof due in 1 to 5 years	thereof due in more than 5 years
	€ k	€ k	€ k	€ k
Future minimum lease payments	11,622	3,828	7,794	0
» thereof sale-and-leaseback	7,177	3,469	3,708	0
Interest portion	1,509	732	777	0
» thereof sale-and-leaseback	719	464	255	0
<b>Present value of future minimum lease payments</b>	<b>10,113</b>	<b>3,096</b>	<b>7,017</b>	<b>0</b>
» thereof sale-and-leaseback	6,458	3,005	3,453	0

As in the prior year, there are no future minimum lease payments under non-cancellable subleases.

### Finance leases – the Group as the lessor

Technical equipment is leased out under finance lease agreements. The finance lease receivables total €11,807k as of the reporting date (prior year: €11,397k).

		30 SEP 17		
		thereof due within 1 year	thereof due in 1 to 5 years	thereof due in more than 5 years
	€ k	€ k	€ k	€ k
Gross investment	13,195	3,998	8,490	707
Unearned finance income	1,388	529	819	40
<b>Present value</b>	<b>11,807</b>	<b>3,469</b>	<b>7,671</b>	<b>667</b>
		30 SEP 16		
		thereof due within 1 year	thereof due in 1 to 5 years	thereof due in more than 5 years
	€ k	€ k	€ k	€ k
Gross investment	12,024	3,233	8,068	723
Unearned finance income	627	260	367	0
<b>Present value</b>	<b>11,397</b>	<b>2,973</b>	<b>7,701</b>	<b>723</b>

## 28 Government grants

The government grants received in the reporting period were as follows:

	2016/17 € k	2015/16 € k
Research and development grants	9,451	17,558
Grants related to assets	3,363	4,145
Other grants related to expenses	933	545
	<b>13,747</b>	<b>22,248</b>

## 29 Related party disclosures

Related parties as defined by IAS 24 *Related Party Disclosures* include the Carl Zeiss Foundation (Carl-Zeiss-Stiftung), Heidenheim an der Brenz and Jena, the entity SCHOTT AG, Mainz, owned by the Carl Zeiss Foundation, the associates, joint ventures and non-consolidated subsidiaries as well as the members of the Executive Board and the Supervisory Board of Carl Zeiss AG.

All transactions with these entities are settled at arm's length conditions. The resulting effects on the consolidated financial statements are immaterial.

The table below shows receivables from and liabilities to entities and investments that are not included in the consolidated financial statements of Carl Zeiss AG:

	30 SEP 17 € k	30 SEP 16 € k
Receivables	33,497	27,864
Liabilities	69,135	63,117

These receivables and liabilities mainly stem from trade and cash management. In addition to these, the Carl Zeiss Foundation (Carl Zeiss Stiftung) has granted Carl Zeiss AG several short-term loans at arm's length conditions totaling €52,500k. These loans are reported in the consolidated statement of financial position under financial liabilities as loans.

The table below shows the goods and services supplied to and received from entities and investments that are not included in the consolidated financial statements of Carl Zeiss AG:

	2016/17 € k	2015/16 € k
Goods and services supplied	27,716	22,189
Goods and services received	35,765	32,788

In the reporting period, there were no transactions between the ZEISS Group and members of the Executive Board and the Supervisory Board and their family members above and beyond the existing employment, service or appointment relationships and the related contractually agreed remuneration.

Information on the remuneration of board members is contained in note 33 Remuneration of the Executive Board and the Supervisory Board.

### **30 German Corporate Governance Code**

The Management Board and Supervisory Board of the listed company Carl Zeiss Meditec AG, Jena, included in the consolidated financial statements have issued a declaration in accordance with Sec. 161 AktG on the recommendations issued by the government commission on the German Corporate Governance Code and made it available to stockholders on the company's website ([www.zeiss.de/meditec-ag/ir](http://www.zeiss.de/meditec-ag/ir)) in the Corporate Governance Section.

### **31 Audit fees**

The Supervisory Board of Carl Zeiss AG engaged Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, to audit the consolidated financial statements. The audit fees relate to the group auditor Ernst & Young GmbH, Germany.

	<b>2016/17</b>	<b>2015/16</b>
	€ k	€ k
Audit services	1,445	1,210
Other attestation services	95	69
Tax advisory services	199	0
Other services	184	267

### **32 Subsequent events**

ZEISS will reorganize the Consumer Products business. Processes and organizational structures will be simplified and aligned even more consistently with the needs of customers and their expectations. In this context, necessary reorganization measures are also required to optimize the cost structure.

There were no additional significant events after the end of the fiscal year.

### 33 Remuneration of the Executive Board and the Supervisory Board

Total remuneration of the members of the Executive Board for performance of their duties at Carl Zeiss AG and its subsidiaries came to €10,945k for fiscal year 2016/17 (prior year: €9,293k). Of the total remuneration, €150k (prior year: €150k) is attributable to long-term benefits and €1,399k (prior year: €414k) to service cost for pension obligations. Current fixed and variable remuneration comes to €9,396k (prior year: €8,729k). The members of the Executive Board did not receive any remuneration or any additional remuneration because they either waived the remuneration for their activities on the supervisory board of subsidiaries or offset this against their Executive Board remuneration.

The total benefits paid to former members of the Executive Board and their surviving dependents amounted to €3,205k for fiscal year 2016/17 (prior year: €1,998k). Provisions totaling of €45,064k (prior year: €40,067k) were made for the benefit obligations to former members of the Executive Board or their surviving dependents.

The total remuneration of the members of the Supervisory Board of Carl Zeiss AG for their activities came to €1,287k in fiscal year 2016/17 (prior year: €776k).

Oberkochen, 22 November 2017

The Executive Board of Carl Zeiss AG

Prof. Dr. Michael Kaschke

Dr. Matthias Metz

Dr. Ludwin Monz

Thomas Spitzenfeil

# List of Shareholdings of the Group

in accordance with Sec. 315a (1) in conjunction with Sec. 313 (2)  
 German Commercial Code (HGB)  
 30 September 2017

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB		Beneficial share in capital %
			%	%	
<b>1. Fully consolidated subsidiaries</b>					
Germany	Aalen	Carl Zeiss 3D Automation GmbH	1	100.0	100.0
Germany	Ostfildern	Carl Zeiss 3D Metrology Services GmbH Stuttgart		100.0	100.0
Germany	Öhringen	Carl Zeiss Automated Inspection GmbH	1	100.0	100.0
Germany	Oberkochen	Carl Zeiss Beteiligungs-GmbH	1	100.0	100.0
Germany	Göttingen	Carl Zeiss CMP GmbH	1	100.0	100.0
Germany	Oberkochen	Carl Zeiss Energie GmbH	1	100.0	100.0
Germany	Oberkochen	Carl Zeiss Financial Services GmbH	1	100.0	100.0
Germany	Tholey	Carl Zeiss Fixture Systems GmbH		90.0	90.0
Germany	Oberkochen	Carl Zeiss Industrielle Messtechnik GmbH	1	100.0	100.0
Germany	Jena	Carl Zeiss Jena GmbH	1	100.0	100.0
Germany	Jena	Carl Zeiss Jena Grundstücks GmbH & Co. KG	1	100.0	100.0
Germany	Jena	Carl Zeiss Meditec AG		59.1	59.1
Germany	Jena	Carl Zeiss Meditec Asset Management Verwaltungsgesellschaft mbH	1	100.0	59.1
Germany	Oberkochen	Carl Zeiss Meditec Vertriebsgesellschaft mbH	1	100.0	59.1
Germany	Jena	Carl Zeiss Microscopy GmbH	1	100.0	100.0
Germany	Oberkochen	Carl Zeiss Oberkochen Grundstücks GmbH & Co. KG	1	100.0	100.0
Germany	Neubeuern	Carl Zeiss Optotechnik GmbH	1	100.0	100.0
Germany	Schönkirchen	Carl Zeiss Schönkirchen GmbH	1	100.0	100.0
Germany	Oberkochen	Carl Zeiss SMT GmbH	1	100.0	75.1
Germany	Oberkochen	Carl Zeiss SMT Holding GmbH & Co. KG	1	75.1	75.1
Germany	Oberkochen	Carl Zeiss SMT Holding Management GmbH	1	100.0	100.0
Germany	Jena	Carl Zeiss Spectroscopy GmbH	1	100.0	100.0
Germany	Wetzlar	Carl Zeiss Sports Optics GmbH	1	100.0	100.0
Germany	Aalen	Carl Zeiss Vision GmbH		100.0	100.0
Germany	Aalen	Carl Zeiss Vision Grundstücks GmbH & Co. KG	1	100.0	100.0
Germany	Aalen	Carl Zeiss Vision Holding GmbH		100.0	100.0
Germany	Aalen	Carl Zeiss Vision International GmbH		100.0	100.0
Germany	Aalen	Carl Zeiss Vision Investment GmbH		100.0	100.0
Germany	Wetzlar	Carl Zeiss Wetzlar Grundstücks GmbH & Co. KG	1	100.0	100.0
Germany	Frankfurt	Helaba Invest - CZFS Spezialfonds		100.0	100.0
Germany	Aalen	Marwitz & Hauser GmbH	1	100.0	100.0
Germany	Kiel	Opton Feintechnik Kiel GmbH	1	100.0	100.0
Argentina	Buenos Aires	Carl Zeiss Vision Argentina S.A.		100.0	100.0
Australia	North Ryde	Carl Zeiss No. 2 Pty Ltd		100.0	100.0
Australia	North Ryde	Carl Zeiss Pty. Ltd.		100.0	100.0
Australia	Lonsdale	Carl Zeiss Vision Australia Group Pty. Ltd.		100.0	100.0
Australia	Lonsdale	Carl Zeiss Vision Australia Holdings Ltd.		100.0	100.0
Australia	Lonsdale	Carl Zeiss Vision Australia Pty. Ltd.		100.0	100.0
Australia	Lonsdale	Sola Optical Partners (Limited Partnership)		100.0	100.0
Belgium	Zaventem	Carl Zeiss N.V.-S.A.		100.0	100.0
Belgium	Zaventem	Carl Zeiss Services N.V.-S.A.		100.0	100.0

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB	Beneficial share in capital
			%	%
<b>1. Fully consolidated subsidiaries</b>				
Belgium	Zaventem	Carl Zeiss Vision Belgium NV	100.0	100.0
Brazil	São Paulo	Carl Zeiss do Brasil Ltda.	100.0	100.0
Brazil	Petrópolis	Carl Zeiss Vision Brasil Industria Optica Ltda.	100.0	100.0
British Virgin Islands	Road Town, Tortola	Carl Zeiss Vision China (BVI) Ltd.	100.0	100.0
China	Changchun City	Carl Zeiss Fixture Systems (Changchun) Co., Ltd.	75.0	75.0
China	Shanghai	Carl Zeiss IMT (Shanghai) Co., Ltd.	100.0	100.0
China	Shanghai	Carl Zeiss (Shanghai) Co., Ltd.	100.0	100.0
China	Suzhou-City	Carl Zeiss Suzhou Co., Ltd.	100.0	100.0
China	Guangzhou	Carl Zeiss Vision (China) Ltd.	100.0	100.0
China	Guangzhou	Carl Zeiss Vision (Guangzhou) Ltd.	100.0	100.0
China	Guangzhou	Carl Zeiss Vision Sunlens China Ltd.	100.0	100.0
China	Guangzhou	Carl Zeiss Vision Technical Services (Guangzhou) Ltd.	100.0	100.0
China	Guangzhou	Carl Zeiss Vision Technologies (Guangzhou) Ltd.	100.0	100.0
Denmark	Birkerød	Carl Zeiss A/S	100.0	100.0
Denmark	Copenhagen	Carl Zeiss Vision Danmark A/S	100.0	100.0
Finland	Vantaa	Carl Zeiss Oy	100.0	100.0
France	La Rochelle, Perigny	Atlantic SAS	100.0	59.1
France	Marly-le-Roi	Carl Zeiss Meditec France S.A.S.	100.0	59.1
France	La Rochelle, Perigny	Carl Zeiss Meditec SAS	100.0	59.1
France	Marly-le-Roi	Carl Zeiss SAS	100.0	100.0
France	Sablé-sur-Sarthe	Carl Zeiss Services S.a.r.l.	100.0	100.0
France	Fougères	Carl Zeiss Vision France Holding S.A.S.	100.0	100.0
France	Fougères	Carl Zeiss Vision France S.A.S.	100.0	100.0
France	Paris	France Chirurgie Instrumentation (F.C.I.) SAS	100.0	59.1
UK	Cambridge	Carl Zeiss Ltd	100.0	100.0
UK	Cambridge	Carl Zeiss Microscopy Limited	100.0	100.0
UK	Birmingham	Carl Zeiss Vision UK Limited	100.0	100.0
UK	Livingston	HYALTECH Ltd.	100.0	59.1
UK	Birmingham	SILS Limited	100.0	100.0
Hong Kong	Kwai Chung, Hong Kong	Carl Zeiss Far East Co., Ltd.	100.0	100.0
Hong Kong	Hong Kong Shatin, N.T.	Carl Zeiss Vision Sunlens Asia Pacific Ltd.	100.0	100.0
India	Bangalore	Carl Zeiss India (Bangalore) Private Limited	100.0	100.0
Ireland	Wexford	Carl Zeiss Vision Ireland Ltd.	100.0	100.0
Ireland	Wexford	Sola Holdings Ireland Limited	100.0	100.0
Israel	Misgav	Carl Zeiss SMS Ltd.	100.0	75.1
Italy	Milan	Carl Zeiss S.p.A.	100.0	100.0
Italy	Varese	Carl Zeiss Vision Italia S.p.A.	100.0	100.0
Japan	Tokyo	Carl Zeiss Co., Ltd.	100.0	100.0
Japan	Tokyo	Carl Zeiss IMT Co., Ltd.	100.0	100.0
Japan	Tokyo	Carl Zeiss Meditec Co., Ltd.	100.0	79.2
Japan	Tokyo	Carl Zeiss Microscopy Co., Ltd.	100.0	100.0

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB	Beneficial share in capital
			%	%
Japan	Tokyo	Carl Zeiss Vision Japan Co., Ltd.	100.0	100.0
Canada	Toronto	Carl Zeiss Canada Ltd.	100.0	100.0
Canada	Toronto	Carl Zeiss Vision Canada Inc.	100.0	100.0
Colombia	Bogota D.C.	Carl Zeiss Vision Colombia S.A.S.	100.0	100.0
Korea, South	Seoul	Carl Zeiss Co., Ltd.	100.0	100.0
Korea, South	Seoul	Carl Zeiss Vision Korea Co., Ltd.	100.0	100.0
Malaysia	Petaling Jaya	Carl Zeiss Sdn. Bhd.	100.0	100.0
Malaysia	Kuala Lumpur	Carl Zeiss Vision (Malaysia) Sdn. Bhd.	100.0	100.0
Mauritius	Quatre Bornes	FCI SUD Ltd.	100.0	59.1
Mexico	México D.F.	Carl Zeiss de México S.A. de C.V.	100.0	100.0
Mexico	Tijuana	Carl Zeiss Vision Manufactura de Mexico S. de R.L. de C.V.	100.0	100.0
Mexico	Naucalpan	Carl Zeiss Vision Mexico S. de R.L. de C.V.	100.0	100.0
New Zealand	Auckland	Carl Zeiss (N.Z.) Ltd.	100.0	100.0
Netherlands	Breda	Carl Zeiss B.V.	100.0	100.0
Netherlands	Breda	Carl Zeiss Vision Nederland B.V.	100.0	100.0
Norway	Oslo	Carl Zeiss AS	100.0	100.0
Austria	Vienna	Carl Zeiss GmbH	100.0	100.0
Austria	Graz	Carl Zeiss Industrielle Messtechnik Austria GmbH	100.0	100.0
Poland	Poznan	Carl Zeiss Shared Services Sp. z o.o.	100.0	100.0
Poland	Poznan	Carl Zeiss Sp. z o.o.	100.0	100.0
Portugal	Setúbal	Carl Zeiss Vision Portugal S.A.	100.0	100.0
Sweden	Stockholm	Carl Zeiss AB	100.0	100.0
Sweden	Malmö	Carl Zeiss Vision AB	100.0	100.0
Switzerland	Feldbach	Carl Zeiss AG	100.0	100.0
Switzerland	Feldbach	Carl Zeiss Vision Swiss AG	100.0	100.0
Singapore	Singapore	Carl Zeiss India Pte. Ltd.	100.0	100.0
Singapore	Singapore	Carl Zeiss Pte. Ltd.	100.0	100.0
Singapore	Singapore	Carl Zeiss Vision Singapore Pte. Ltd.	100.0	100.0
Slovakia	Bratislava	Carl Zeiss Slovakia, s.r.o.	100.0	100.0
Spain	Tres Cantos – Madrid	Carl Zeiss Iberia, S.L.	100.0	100.0
Spain	Tres Cantos – Madrid	Carl Zeiss Meditec Iberia SA	100.0	59.1
Spain	Tres Cantos – Madrid	Carl Zeiss Vision España, S.L.	100.0	100.0
South Africa	Randburg	ANASPEC (Pty.) Ltd.	100.0	100.0
South Africa	Randburg	Carl Zeiss (Pty.) Ltd.	100.0	100.0
South Africa	Randburg	Carl Zeiss Vision South Africa (Pty) Ltd.	100.0	100.0
Thailand	Bangkok	Carl Zeiss Co. Ltd.	49.0 <sup>2</sup>	49.0 <sup>2</sup>
Czech Republic	Prague	Carl Zeiss spol. s r.o.	100.0	100.0
Turkey	Ankara	Carl Zeiss Meditec Medikal Çözümler Tic. ve San. A.S	100.0	59.1
Hungary	Mátészalka	Carl Zeiss Sport Optikai Hungaria Kft.	100.0	100.0
Hungary	Mátészalka	Carl Zeiss Vision Hungary Optikai Kft.	100.0	100.0
USA	Ontario, South California	Aaren Scientific Inc.	100.0	59.1
USA	Thornwood	Carl Zeiss Inc.	100.0	100.0

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB	Beneficial share in capital
			%	%
<b>1. Fully consolidated subsidiaries</b>				
USA	Minneapolis	Carl Zeiss Industrial Metrology, LLC	100.0	100.0
USA	Dublin	Carl Zeiss Meditec, Inc.	100.0	59.1
USA	Thornwood	Carl Zeiss Microscopy, LLC	100.0	100.0
USA	Thornwood	Carl Zeiss SBE, LLC	100.0	100.0
USA	San Diego	Carl Zeiss Vision Holdings Ltd.	100.0	100.0
USA	San Diego	Carl Zeiss Vision Inc.	100.0	100.0
USA	Pleasanton	Carl Zeiss X-ray Microscopy, Inc.	100.0	100.0
USA	Pembroke	FCI Ophthalmics Inc.	100.0	59.1
USA	Lafayette	Ophthalmic Laser Engines, LLC	52.0	30.8
Venezuela	San Diego	Carl Zeiss Vision Venezuela Industria Optica C.A.	100.0	100.0
United Arab Emirates	Dubai	Carl Zeiss Vision MENA FZE	100.0	100.0
<b>2. Non-consolidated subsidiaries</b>				
Germany	Cologne	Carl Zeiss 3D Metrology Services GmbH Köln	100.0	100.0
Germany	Garching	Carl Zeiss 3D Metrology Services GmbH München	100.0	100.0
Germany	Peine	Carl Zeiss 3D Metrology Services GmbH Peine	100.0	100.0
Germany	Oberkochen	Carl Zeiss Achte Vorratsgesellschaft mbH	100.0	100.0
Germany	Oberkochen	Carl Zeiss Dritte Vorratsgesellschaft mbH	100.0	100.0
Germany	Aalen	Carl Zeiss EyeTec GmbH	100.0	100.0
Germany	Oberkochen	Carl Zeiss Grundstücks-Verwaltungs GmbH	100.0	100.0
Germany	Dresden	Carl Zeiss Innovationszentrum für Messtechnik GmbH	100.0	100.0
Germany	Wangen	Carl Zeiss Optical Components GmbH	100.0	100.0
Germany	Cologne	Carl Zeiss Retrofit und Service GmbH	100.0	100.0
Germany	Oberkochen	Carl Zeiss Sechste Vorratsgesellschaft mbH	100.0	100.0
Germany	Oberkochen	Carl Zeiss Siebte Vorratsgesellschaft mbH	100.0	100.0
Germany	Aalen	Carl Zeiss Smart Optics GmbH	100.0	100.0
Germany	Oberkochen	Carl Zeiss Venture Beteiligungsgesellschaft mbH	100.0	100.0
Germany	Aalen	Carl Zeiss Vision Erste Vorratsgesellschaft mbH	100.0	100.0
Germany	Oberkochen	Gusto Gourmet GmbH	100.0	100.0
Germany	Essingen	Holometric Technologies Forschungs- und Entwicklungs-GmbH	100.0	100.0
Denmark	Birkerød	Brock & Michelsen Invest A/S	100.0	100.0
France	Paris	HEXAVISION Sarl	100.0	59.1
Croatia	Zagreb	Carl Zeiss d.o.o.	100.0	100.0
Poland	Slupsk	OptiMedi Sp. z o.o.	91.1	58.3
Poland	Slupsk	OptiNav Sp. z o.o.	64.0	64.0
Romania	Bucharest	Carl Zeiss Instruments S.R.L.	100.0	100.0
Zimbabwe	Harare	Carl Zeiss (Pvt.) Ltd. (Zimbabwe)	100.0	100.0
Slovenia	Ljubljana	Carl Zeiss d.o.o.	100.0	100.0
Taiwan	Hsinchu City	Carl Zeiss Co., Ltd.	100.0	100.0
Turkey	Istanbul	Carl Zeiss Teknoloji Çözümleri Ticaret Limited Şirketi	100.0	100.0

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB	Beneficial share in capital
			%	%
Hungary	Budapest	Carl Zeiss Technika Kft.	100.0	100.0
USA	San Diego	American Optical IP Corporation	100.0	100.0
USA	Novi, Michigan	Carl Zeiss Metrology Services Inc.	80.0	80.0
USA	Temple, Texas	Veracity Innovations, LLC	100.0	59.1
Belarus	Minsk	ZEISS-BelOMO OOO	60.0	60.0

**3. Associates not accounted for using the equity method**

Germany	Jena	JENAER BILDUNGSZENTRUM gGmbH SCHOTT CARL ZEISS JENOPTIK	33.3	33.3
Germany	Eggenstein-Leopoldshafen	Nanoscribe GmbH	39.9	39.9
Germany	Mainz	SCHOTT-ZEISS ASSEKURANZKONTOR GmbH	50.0	50.0
Germany	Meiningen	μ-GPS Optics GmbH	24.6	24.6
Denmark	Nørresundby	3D-CT A/S	49.0	49.0

<sup>1</sup> In accordance with Sec. 264 (3) HGB or Sec. 264b HGB, these entities are exempted from the duty to publish their financial statements

<sup>2</sup> Majority of the voting rights

# Auditors' Report

We have audited the consolidated financial statements prepared by Carl Zeiss AG, Oberkochen, comprising the income statement, the statement of comprehensive income, the statement of financial position, the statement of changes in equity, the statement of cash flows and the notes to the consolidated financial statements, together with the group management report for the fiscal year from 1 October 2016 to 30 September 2017. The preparation of the consolidated financial statements and the group management report in accordance with IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315a (1) HGB ("Handelsgesetzbuch": 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 Sec. 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). 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 comply with IFRSs as adopted by the EU, the additional requirements of German commercial law pursuant to Sec. 315a (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, complies with the legal requirements and as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks relating to future development.

Stuttgart, 11 December 2017

Ernst & Young GmbH  
Wirtschaftsprüfungsgesellschaft

Prof. Dr. Schmidt Wirtschaftsprüfer [German Public Auditor]	Dr. Jungblut Wirtschaftsprüfer [German Public Auditor]
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# Legal Information/Disclaimer

## Legal information

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Printed copies of the short version of the Annual Report 2016/17 can be ordered at [www.zeiss.com/annualreport](http://www.zeiss.com/annualreport) in German and in English.



## Disclaimer

This report contains certain forward-looking statements concerning the development of the ZEISS Group. At the present time, ZEISS assumes that these forward-looking statements are realistic. However, such forward-looking statements are based both on assumptions and estimates that are subject to risks and uncertainties, which may lead to the actual results differing significantly from the expected results. ZEISS therefore assumes no liability for such a deviation. There are no plans to update the forward-looking statements for events that occur after the end of the reporting period.

Apparent addition discrepancies may arise throughout this annual report due to mathematical rounding.

This is a translation of the original German-language Annual Report of the ZEISS Group. The ZEISS Group shall not assume any liability for the correctness of this translation. If the texts differ, the German report shall take precedence.

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