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Annual Report

2017/18

ZEISS Group

Financial Highlights
(IFRSs)

	2017/18		2016/17		2015/16	
	€ m	%	€ m	%	€ m	%
Revenue	**5,817**	**100**	5,348	100	4,881	100
» Germany	610	10	621	12	612	13
» Other countries	5,207	90	4,727	88	4,269	87
Research and development expenses	**642**	**11**	552	10	436	9
EBIT	**772**	**13**	770	14	615	13
Consolidated profit/loss	**535**	**9**	561	10	404	8
Cash flows from operating activities	**576**		445		425	
Cash flows from investing activities	**-334**		-642		-357	
Cash flows from financing activities	**-89**		258		-207	
Total assets	**7,903**	**100**	7,317	100	5,658	100
Property, plant and equipment	**1,028**	**13**	973	13	979	17
» Capital expenditures	244		183		154	
» Amortization, depreciation and impairment	164		160		155	
Inventories	**1,391**	**18**	1,275	17	1,118	20
Equity	**3,763**	**48**	3,429	47	1,416	25
Net liquidity	**2,120**		1,986		568	
Employees as of 30 September	**29,309**		26,945		25,433	
» Germany	12,067		11,339		10,770	
» Other countries	17,242		15,606		14,663	

Further information at:
www.zeiss.com/annualreport

Content

Foreword from the Executive Board

Ladies and Gentlemen,
Friends of ZEISS,

We can look back over a record year: our revenue rose by nine percent to 5.8 billion euros (previous year: 5.3 billion euros) and the earnings of the ZEISS Group also achieved a new record high with 772 million euros (previous year: 770 million euros).

I am particularly delighted that all ZEISS segments and regions helped us achieve such an exceptional result. Particularly noteworthy is the positive development of the two segments Semiconductor Manufacturing Technology and Medical Technology. However, the Industrial Quality & Research and Consumer Markets segments also held their ground in their hotly contested markets. We owe this success first and foremost to our employees. On behalf of the entire Executive Board, I would like to thank them all for their dedication.

While the ZEISS Group achieved very dynamic growth on a global scale in Asia in particular, and in many parts of America, there is increasing uncertainty as regards the economic outlook. For this reason, we are bolstering the resilience of the ZEISS Group and taking measures to combat the repercussions of increasing protectionism as well as other negative effects on the global economy. The most important measures include a long-term investment strategy that is based on our balanced portfolio, our international footprint and our global value creation.

The modernization of our sites in Jena (Germany), Dublin (USA) and Guangzhou (China), as well as the expansion of our presence at new centers for high-tech and digital topics, such as the ones in Karlsruhe, Munich, Shanghai (China) and Bangalore (India), are all key milestones. We have also made sizeable investments at our headquarters in Oberkochen.

Above-average spending on research and development, and thus the targeted creation of additional highly innovative workspaces in Germany and across the globe, ensure ZEISS' innovation and future readiness. Our acquisitions during the reporting year play a major role here. They include Guardus, a software provider for production analysis and control, our majority stake in Bosello High Technology, a solutions provider for industrial X-ray machines, and the takeover of IanTECH, Inc, a specialist in micro-invasive cataract surgery. That's the only way we can defend our title as technology leader and make progress in key growth areas such as digitalization, healthcare and miniaturization.

Our positive development in the past fiscal year confirms that we are on the right track with the ZEISS Agenda 2020. Our goal is still to continue expanding our leading market position through innovative high-tech products and solutions, as well as expand our consistent alignment to the success of our customers and our strong brand. This is essential if we want to stay on track given the increasingly challenging economic situation.

On behalf of my colleagues on the Executive Board and our employees, I would like to thank all of our customers and business partners for placing their trust in us.

Best regards,

Prof. Dr. Michael Kaschke
President & CEO

Karl Lamprecht | Matthias Metz | Michael Kaschke | Christian Müller | Jochen Peter | Ludwin Monz

Executive Board of Carl Zeiss AG

Prof. Dr. Michael Kaschke
President and CEO

Dr. Karl Lamprecht
CEO of the Semiconductor Manufacturing Technology segment

Dr. Matthias Metz
CEO of the Consumer Markets segment

Dr. Ludwin Monz
CEO of the Medical Technology segment

Dr. Christian Müller[1]
CFO

Dr. Jochen Peter
CEO of the Industrial Quality & Research segment

[1] Since 1 October 2018. Thomas Spitzenpfeil was CFO until 30 September 2018

"Anticipating the challenges that lie ahead"

A host of megatrends, accelerated innovation cycles and digital transformation will set the pace for companies in the future. Lifestyles change in a flash, and product cycles are getting ever shorter. Platform companies disrupt entire industries. Companies, the economy and society must all be able to anticipate the challenges that lie ahead. Industrial companies with a technological focus and the researchers of the future can use strategic investments and scientifically sound trend studies to play a key role here. Dr. Eike Wenzel, founder of the Institute for Trend and Future Research, and Prof. Dr. Michael Kaschke, President and CEO of Carl Zeiss AG, came together to discuss these points.

Dr. Wenzel: *Digitalization is rapidly changing our lives in many ways. The economy and society are undergoing a period of tremendous upheaval. This also concerns parts of your company which are set to change drastically, such as Medical Technology. A company like ZEISS simply must get on board with this.*

Prof. Dr. Kaschke: That's true. Through strategic planning, we are thus aiming to establish a mid-term future strategy that goes beyond quarterly and annual planning. It is essential that we begin by clearly documenting the planning factors. That means providing answers to the question about what assumptions form the basis for the possible planning scenarios.

Wenzel: *Companies that operate strategically and future researchers certainly stand to gain a lot.*

Kaschke: Allow me to present one of these factors: sustainability. How can there be social peace in Africa or Asia when billions of people have no access to healthcare? We do tend to apply our world view to other countries. But we often forget that healthcare is a much more pressing issue in other countries than it is in our own.

Wenzel: *This is also shown by the fact that seven of the 15 megatrends we've created at our Institute are sustainability trends. At the Institute, we're none the wiser about how smartphones will look in the future. But we can still play our part by keeping a close eye on the megatrends and understanding them.*

Kaschke: That's why we asked ourselves what megatrends are relevant to our strategic planning. The first issue is our aging society – and by that I mean the active members of our aging society, the people who will be active at this new stage in their lives.

Wenzel: *In terms of demographic change, we usually hear about how we are all getting older. But people normally neglect to mention how much younger we feel. Between the ages of 55 and 80, we're entering a whole new phase of our lives. This has repercussions on*

Dr. Eike Wenzel, founder of the Institute for Trend and Future Research, and Prof. Dr. Michael Kaschke, President and CEO of Carl Zeiss AG, discussed the requirements and opportunities for planning the future and creating the foundation to do so.

production volumes. I'll stop talking about particular age groups because I expect future 80-year-olds to feel young. Self-driving cars, for instance, can tap into new worlds of mobility, which will have a positive impact on our quality of life.

Kaschke: That's why I think the term "aging society" is somewhat misleading. After all, stating our biological age doesn't do justice to this new phase of our lives. New lifestyles can create a need for certain products. One of our primary goals is to use the products to enhance quality of life, for example through our many innovative vision care solutions. I'd like to mention another topic: industrial development toward the platform economy. Hundreds of thousands of eye doctors across the world help millions, nay billions of people to see more clearly. We are working on developing a platform for these doctors around the world, which is why the platform economy as a megatrend is such an important topic for us.

Wenzel: *The development of the platform economy is truly impressive. Many successful business models are based on the network effect. However, many established portals will be rethinking their global role over the coming years, and potentially redefining themselves in certain megatrend areas, in a way that bolsters factors such as their regional focus.*

Kaschke: Platforms have become so dominant because in the B2C area they can be scaled very quickly and easily across boundaries. This is linked to how software platforms like these reduce the application costs to next to nothing. When you produce a piece of hardware, you can almost compensate for the production costs in a linear sense by manufacturing a certain volume. The question is, how can we hold our own in the face of rapidly scalable platforms with minimal replication costs? By developing industry-specific B2B ecosystems. We can do this thanks to our expertise in certain industries or occupations, such as eye doctors.

Megatrends like digitalization and Smart Production, healthcare in an aging society and in miniaturization are rapidly changing our lives in many ways. As a technology leader, ZEISS strives to use its products and solutions to shape the future – and not just in the optics industry.

Wenzel: *Are you at all concerned that software companies could one day combine your algorithms with artificial intelligence and machine learning to develop diagnostic tools for eye doctors?*

Kaschke: Many people have already started using machine learning and artificial intelligence, but we believe we're miles ahead of them. After all, we are familiar with doctors' needs and have many years of experience in this area under our belts. This, coupled with our direct customer contact, often results in us developing our platforms together with our customers.

Wenzel: *I take your point. With classic B2C platform concepts, America and China are way ahead of the pack. However, the B2B world holds a tremendous opportunity for German industry. Here, it would make sense to join forces with other companies.*

Kaschke: We're already doing that. Last year, we acquired two software companies that also work in areas like these. We are using the ADAMOS industry platform to enable a partnership with other companies that have a certain amount of domain knowledge. At ZEISS, we form groups capable of focusing on platform concepts that break away from the classic business model. We are always thinking about how we can maintain our competitive advantage. I believe our strength lies in our customer relationships, in our domain knowledge, as well as in our well-stocked technology pipeline. Mergers and acquisitions also play a role in this respect, but we are evolving organically at tremendous speed – in terms of both quantity and quality.

Wenzel: *A key issue with platforms is who moderates them. Back in 1995, IBM claimed that you should work with your competitors. The idea of the ecosystem you mentioned is certainly appealing, especially since it gives rise to new products and services.*

Kaschke: I couldn't agree more. The aim is always to deliver the value added of a platform to the users. For example, an eye doctor has access to huge volumes of anonymous data. This helps the doctor make decisions, for example with information about the statistical

In their discussion, future researcher Dr. Wenzel and CEO Prof. Dr. Michael Kaschke identified that strategically operating companies and future researchers can set trends.

probability of how a disease is likely to develop. This is value added that we can offer the doctor. Here's another example: many people with age-related diseases live in a care home. These days, we shouldn't really expect older people to travel a long way to see a doctor. Remote diagnosis means many issues can be resolved in the care home.

Wenzel: *You mentioned a new phase of life in which older people will be much more active despite their limitations. Perhaps this will also change the way we see lifelong learning.*

Kaschke: Some people in their 70s are taking computer courses. What motivates them to do so? They recognize the benefits. The key is therefore in learning on our own terms, especially in an age where the media is ever present. I'd like to add one more thing while we're on the subject of learning and it applies to all generations equally: learning enables us to retain our capacity to make judgements and helps our causal reasoning so that people don't just understand things and information but can also see the connections and judge and assess them.

Wenzel: *That pretty much sums it up. In this new world we will need the capacity to judge. While this may sound conservative, it's actually a fundamental issue.*

Moderator: Guido Walter

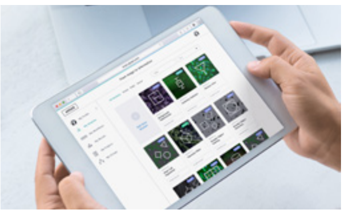
Fiscal Year Highlights

The ZEISS Group can expect a bright future thanks to its long-term investment strategy, balanced portfolio, international footprint and globally aligned value creation. As in the fiscal year before it, where targeted investments helped ZEISS shape the future, there were also many highlights in fiscal year 2017/18 – here are just a handful of them.

INNOVATIONS

50 years of semiconductor manufacturing technologies from ZEISS
The 50-year development of our semiconductor manufacturing technologies and ASML's lithography systems since 1984 culminated in the series production of extreme ultraviolet (EUV) lithography – a technology that may well have enabled the biggest technological leap in the history of chip fabrication. ZEISS celebrated this milestone in summer 2018.

ZEISS Research Award
This year's winners were presented with the ZEISS Research Award during the ZEISS Symposium "Optics in the Quantum World" in Oberkochen. Tobias Kippenberg, Professor at the Laboratory of Photonics and Quantum Measurements at the École Polytechnique Fédérale de Lausanne (EPFL), and Jean-Pierre Wolf, Professor at the Biophotonics Institute at the University of Geneva, were honored for their research in quantum physics.



The digital microscopy platform
The cloud-based microscopy platform APEER, which was launched in the past fiscal year, is a digital innovation that will help ZEISS focus more sharply on its customers. This digital tool for microscopy users enhances workflows, thus giving scientists more time to focus on their research rather than on image processing.

SITES

ZEISS Innovation Hub @ KIT
The groundbreaking ceremony for a new shared innovation hub on the north campus of the Karlsruhe Institute of Technology (KIT) took place in Karlsruhe. Construction of the 30-million-euro facility covering 12,000 square meters began in early 2018. The plan to accommodate high-tech and digital startups is set to continue driving networks between the economy and science.

New high-tech facility in Jena
Jena – the founding site and our second-largest worldwide – will be further expanded as one of ZEISS's leading innovation hubs. In a new integrated high-tech complex, the units located here will all be housed in one place and capacities for expansions will be created, as will opportunities for networking with partners.

EXPANSION

Acquisition of a majority stake
With some 300 employees and 16 sites in Russia, Ukraine, the Commonwealth of Independent States (GUS) and Georgia, the OPTEC Group has long been much more than a regular sales and service partner. With the acquisition of a majority stake in OPTEC, ZEISS is building on a presence spanning almost 115 years in the region and is continuing to expand it.

Acquisition of industrial X-ray systems manufacturer
In January, ZEISS acquired a majority stake in Bosello High Technology, an Italian solutions supplier for industrial X-ray systems. The acquisition marks another step in the company's evolution into a one-stop provider of non-destructive measuring and inspection technology.

A new level of integrated solutions
The acquisition of Ulm-based company Guardus elevated ZEISS as a partner for greater productivity in digitalized production that aspires to a new level of integrated solutions for agile process control.

EMPLOYEES AND COMPETENCIES

Excellent training opportunities at ZEISS
The basis for the long-term success of the ZEISS Group are highly qualified, dedicated and motivated employees. To ensure this basis remains intact, ZEISS attaches great importance to training – and this has been a great success so far. ZEISS trainees like Laura Krebs regularly rank among Germany's best precision optician trainees.

Shaping the future of microchip production
The European Inventor Award is presented annually by the European Patent Office and is one of Europe's most important innovation prizes. In 2018, ZEISS Fellow Erik Loopstra and physicist Vadim Banine (ASML), together with their teams of engineers and researchers, received the People's Prize for their groundbreaking findings in EUV lithography.

Hackathon in Munich and Bangalore
ZEISS uses its Hackathons to give young talents the chance to get to know the company and its products at regular intervals. In January 2018, an international Hackathon was held for the first time – in both Munich and Bangalore (India). Almost 200 software developers, hardware specialists and designers had just 24 hours to come up with innovative digital solutions.

Closer to the customer: the new Quality Excellence Center in Barcelona
ZEISS is represented in over 40 countries around the world. Sales and Service are being strategically expanded in order to consistently think like customers and work with them on future projects. One example from the reporting year is the new ZEISS Quality Excellence Center for Metrology and Microscopy in Barcelona.

Represented Worldwide

A lot has happened since 1893, when ZEISS opened its first branch outside Germany, in London. Today the ZEISS Group is represented in almost 50 countries. About 30,000 employees worldwide work at more than 30 production sites, around 60 sales and service locations and about 25 research and development facilities. The company is headquartered in Oberkochen (Baden-Württemberg).

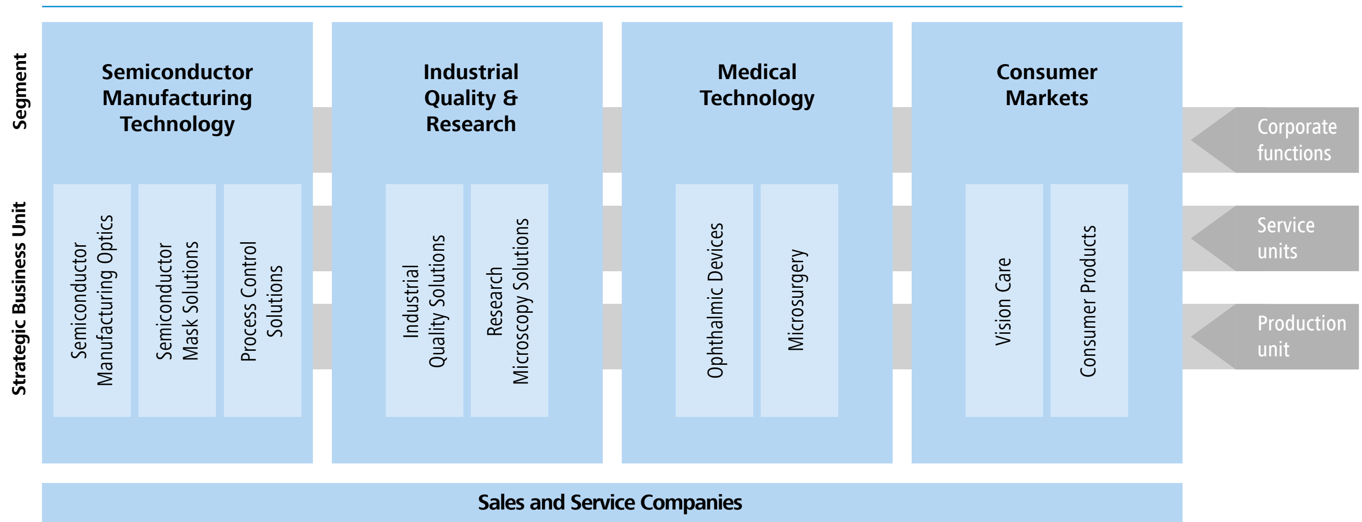
Manufacturing site
Sales and service site
Research and development site

Future-Shaping Segments

The ZEISS Group is one of the world's leading technology companies. It has a balanced portfolio that is geared toward attractive future-oriented markets of optics, precision mechanics and optoelectronics. For 170 years, the company has been shaping technological progress, advancing and delivering solutions from its four segments to the world of optics, and responding to customers' requirements.

"As pioneers in scientific optics, we have been challenging the limits of human imagination for a long time. With our passion for excellence, we create value for our customers and inspire the world in new ways."
The ZEISS mission statement

ZEISS Group



Semiconductor Manufacturing Technology

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

Industrial Quality & Research

ZEISS lives up to 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 its products and solutions for ophthalmology, neurosurgery, ENT surgery and dentistry, ZEISS helps drive progress in medicine and assists doctors all over the world in enhancing their patients' quality of life.

Consumer Markets

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

Responsible Behavior

For ZEISS, business success is directly linked to corporate responsibility. The statute of the Carl Zeiss Foundation has served as our guideline for 130 years. With its five fields of action, ZEISS is building on its historical values and defining its responsibility for ensuring sustainable development.

More than two billion people around the world have no access to eye care. By supporting projects in Paraguay (left) and in the Amazon region (right), ZEISS is helping to ensure access to healthcare.

Integrity and compliance

Business activities that adhere to the relevant legal guidelines and internal regulations form the basis for responsible business activities. At ZEISS, legality, fairness and a free market economy are the building blocks of a successful corporate culture. To achieve this, we need to ensure an open and respectful atmosphere, which at ZEISS is paired with an effective compliance management system to make sure any errors are identified and eliminated.

The new e-learning module on compliance topics created in 2017/18 is available to employees around the world

in 14 languages.

Products and value added

Product solutions from ZEISS contribute to medical advances in eye care and in neurosurgery and ENT surgery, and support doctors on every continent as they improve the quality of life of their patients. ZEISS eyeglass lenses help people around the world see clearly once again. What's more, intelligent measuring systems from ZEISS help many companies increase their energy efficiency. The responsible creation of a value chain – from raw material suppliers to product sales – is essential for ZEISS when it comes to minimizing the negative impact of its business activities.

More than 50 percent

of the external purchasing volume is covered by key strategic suppliers. They must accept the Code of Conduct of the Responsible Business Alliance and forward it to their subcontractors.

Employees

Precision, innovation, and unparalleled quality can only be achieved with motivated and qualified employees. In light of the intense competition for talented employees, ZEISS positions itself as an attractive employer and, in this context, benefits from its reputation as a global and innovative foundation-owned company with a distinctly values-driven corporate culture. This is a clear competitive advantage, especially given demographic change and the current shortage of specialists.

158 young people

began a vocational training program or a combined degree-and-vocational-training program in 2017/18 at the company's German locations.

Environment

An effective environmental policy and the responsible use of resources are key concerns for the ZEISS Group. ZEISS has succeeded in reducing its consumption and emissions in an ongoing manner and has set specific reduction targets. ZEISS selects raw materials, technologies and production processes based on their environmental compatibility. Wherever possible, materials with risk potential are replaced with less problematic substances.

32 business units

at 16 ZEISS Group production facilities were certified to the environmental management system ISO 14001 in 2017/18.

Social engagement

Based on its responsibility as a foundation company, ZEISS promotes scientific

and technological progress and campaigns for better living conditions worldwide. Through the Carl Zeiss Promotion Fund, the company supports social projects, initiatives and facilities at its main sites in Germany. By collaborating with German and international aid organizations such as the Christoffel Mission for the Blind (CBM) and Mercy Ships, ZEISS helps improve medical care for people in all regions of the world. With a view to bringing young people closer to science and research, for 20 years ZEISS has been the sponsor of Jugend forscht, Germany's oldest and best-known competition for young researchers.

600,000 euros

Funding volume for around 140 social projects at the sites in Germany.

For more information, visit:
www.zeiss.com/responsibility

Ownership Structure

The Carl Zeiss Foundation is the sole shareholder 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.

Carl Zeiss Foundation

Heidenheim an der Brenz and Jena, Foundation acting as a shareholder

100%	100%
ZEISS Group	SCHOTT Group
Foundation company **Carl Zeiss AG** *Oberkochen*	Foundation company **SCHOTT AG** *Mainz*
Subsidiaries	**Subsidiaries**

In 1889, physicist and entrepreneur Ernst Abbe created the Carl Zeiss Foundation to which Carl Zeiss AG and SCHOTT AG belong. The objectives of the Foundation as 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. Today, the Carl Zeiss Foundation is one of Germany's largest foundations focused on the promotion of science.

For more information, visit:
www.carl-zeiss-stiftung.de/english/

Report of the Supervisory Board

Prof. Dr. Dieter Kurz

Dear All,

ZEISS continues to grow – and there's no end in sight. In particular, the company's innovative strength and its decisions to make investments in digital business models ensured an exceptionally successful fiscal year 2017/18. Once again, the positive development of all key performance indicators is a feature of the increased competitiveness, which is by no means a given in light of global uncertainty.

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, 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- and long-term planning, investments and organizational measures. I was in close contact with the Executive Board and was regularly informed 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 have joined forces to ensure ZEISS remains successful.

Supervisory Board meeting topics

In fiscal year 2017/18, the Supervisory Board convened on four occasions. ZEISS' success is thanks to highly motivated talents who have always worked at the company. In December 2017, alongside the 2016/17 Annual Report, we poured our energies into recruiting strategies and the process of strategic personnel planning as a way of safeguarding our future. The meeting held in April 2018 focused primarily on current and planned acquisitions in line with the Agenda. The Executive Board reported on specific M&A measures and further intensification of the strategy, particularly in the growth areas of digitalization and software. Furthermore, the Supervisory Board approved future-oriented building projects such as the new integrated high-tech site in Jena, which will bring together the units located there and create capacities for expansions. The expansion of production areas in Guangzhou (China) for the Medical Technology segment and the Vision Care strategic business unit was also approved. Our strategy meeting in July focused on the portfolio and the targets at the different segments. The Executive Board presented a clear strategic plan on how it will continue enabling positive development at ZEISS by working with managers and employees alike. The budget plan for 2018/19 was approved at the fourth meeting in September. At this meeting, the Supervisory Board also approved the acquisition of IanTECH, Inc., a US specialist for micro-invasive cataract surgery. We are thus making sizeable investments in the future of ZEISS.

Changes to the Executive Board

In order to continue implementing the ZEISS structure as a portfolio company as per market and customer segments, in December 2017 the Supervisory Board approved the expansion of the Executive Board of four members: On 1 January 2018, Dr. Karl Lamprecht for the Semiconductor Manufacturing Technology segment and Dr. Jochen Peter for the Industrial Quality & Research segment were appointed to it. After eight years as Chief Financial Officer, Thomas Spitzenpfeil will pursue new challenges outside of the ZEISS Group. In July 2018, it was announced that Dr. Christian Müller would become the new CFO on 1 October 2018.

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 four times. At the meetings, personnel decisions were prepared and the reallocation of business was discussed in connection with the changes to the Executive Board. Target achievement and Executive Board remuneration were subjected to the regular review. At the Supervisory Board meetings the Chairmen of the Audit and Chairman's Committees reported regularly about the work of the committees. The Mediation Committee did not convene during the year under review.

Changes to the Supervisory Board

On 1 January 2018, Dr. Carla Kriwet was appointed to the Supervisory Board. She replaces Prof. Dr. Günter Stock, who has retired from the Supervisory Board after a term of more than eight years. Wilhelm Ulrich stepped down from his position on the Supervisory Board on 30 September 2018 to begin the passive phase of his retirement. Andreas Kopf was appointed as his successor by way of a court ruling.

Audit of the annual and consolidated financial statements

Auditing firm Ernst & Young GmbH, Stuttgart, has audited the consolidated financial statements of Carl Zeiss AG, including the Management Report, for fiscal year 2017/18 prepared pursuant to Sec. 315e (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 12 December 2018 and at the Supervisory Board meeting held on 13 December 2018. 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 2018.

Pursuant to Sec. 312 German Stock Corporations Act (AktG), the Executive Board has prepared the above-mentioned dependent company report for the period from 1 October 2017 to 30 September 2018. The independent auditors have issued the following opinion on the findings of their audit of the dependent company report: "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.

In addition, the Auditing Committee was presented with a separately published non-financial Annual Report of Carl Zeiss AG. The non-financial report was sent to PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC), Munich, for a voluntary financial assessment to obtain limited assurance. As per the recommendation of the Auditing Committee, the Supervisory Board ends by confirming adherence to the CSR Guideline Implementation Law (EU Directive 2014/95/EU) of the non-financial report for the ZEISS Group and approving it.

The Executive Board's proposal to pay a dividend of EUR 54.3m from net income to the sole shareholder, 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 ZEISS employees for their commitment and declared intent to ensure ZEISS remains just as successful in the future.

Oberkochen, December 2018
On behalf of the Supervisory Board

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

Supervisory Board of Carl Zeiss AG

Supervisory Board of Carl Zeiss AG

Dr. Dieter Kurz, Lindau
Chairman
Chairman of the Shareholder Council of the Carl Zeiss Foundation (Carl-Zeiss-Stiftung), Heidenheim an der Brenz and Jena

Manfred Wicht[1], Königsbronn
Deputy Chairman
Development Engineer at Carl Zeiss Vision GmbH, Aalen

Hariolf Abele[1], Aalen
Deputy Chairman of the Employee Representative Council of Carl Zeiss Industrielle Messtechnik GmbH, Oberkochen

Prof. Dr. Martin Allespach[1], Kelkheim
Weinheim, Director and Head of the European Academy of Labour at the University of Frankfurt am Main

Gerhard Bösner[1], 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[1], Oberkochen
Chairman of the Employee Representative Council of Carl Zeiss AG, Oberkochen

Roland Hamm[1], Aalen
First Authorized Representative of IG Metall union, Administration Office, Aalen

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

Andreas Kopf[1], Bad Wurzach
Head of Shared Services Consolidation and Accounting at Carl Zeiss AG, Oberkochen

Dr. Joachim Kreuzburg, Hannover
CEO and Chairman of the Executive Board of Sartorius AG, Göttingen

Dr. Carla Kriwet, Hamburg
Chief Executive Officer of Connected Care and Health Informatics, Philips, Andover

Eva-Maria Menzel[1], Jena
Deputy Chairwoman of the Employee Representative Council of Carl Zeiss AG, Jena site

Prof. 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, Düsseldorf

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
Roland Hamm[1]
Manfred Wicht[1]

Audit Committee
Dr. Lothar Steinebach (Chairman)
Hariolf Abele[1]
Angelika Franzke[1]
Dr. Dieter Kurz

Mediation Committee
Dr. Dieter Kurz (Chairman)
Dr. Mathias Kammüller
Eva-Maria Menzel[1]
Manfred Wicht[1]

[1] Employee representative
Status: November 2018

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. It 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

Group Management Report

THE ZEISS GROUP

Business activity

ZEISS is an internationally leading technology enterprise operating in the optics and optoelectronics industries. The ZEISS 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 advances the world of optics and other related fields with its solutions. The ZEISS Group develops, produces and sells semiconductor manufacturing equipment, measuring technology, microscopes, medical technology and eyeglass lenses, as well as camera and cine lenses, binoculars and planetarium technology. ZEISS comprises 4 segments: Semiconductor Manufacturing Technology, Industrial Quality & Research, Medical Technology and Consumer Markets.

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 products using semiconductor manufacturing technology, including lithography optics, photomask systems and process control solutions, key technologies for the manufacture of extremely fine circuit path structures on silicon wafers – the material from which the microchips are made. 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 foster global progress in a variety of disciplines, including technology, electronics, communications, entertainment, mobility, energy and artificial intelligence. With this segment, ZEISS is making a decisive contribution to shaping the age of microelectronics and our digital future. In the reporting year, the segment celebrated 50 years of semiconductor manufacturing technology at ZEISS.

Industrial Quality & Research
The products and solutions developed in the Industrial Quality & Research segment are focused on increasing productivity, quality assurance in production and visualizing the tiniest of structures in the area of science and research. The range of coordinate measuring machines, optical and multisensory systems, and software solutions is complemented by comprehensive service offerings and innovative technologies, such as 3D X-ray measurement in quality assurance. They ensure perfect results, for example, in the automotive industry, mechanical engineering and aircraft construction, and in the plastics industry and medical technology. In the area of science and research, the segment also covers the entire spectrum of microscopy with light, ion, electron and X-ray microscopes. The solutions and services are used in the life sciences and materials research, as well as for education and in clinical practice.

Medical Technology
The Medical Technology segment develops, manufactures, markets and sells diagnostic and treatment 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 and applications. As a solutions provider, the company plays an active part in the increasing digitalization and systems integration in the health sector and creates the conditions needed for efficient processes and effective patient data management at its customers' sites. The segment's activities are pooled primarily in the listed entity Carl Zeiss Meditec AG, in which Carl Zeiss AG holds a 59.1% stake.

Consumer Markets
The Consumer Markets segment stands for excellence in vision care, photography, cinematography and sports optics. ZEISS develops, produces and sells solutions for the entire eyeglass value chain. Alongside ZEISS precision eyeglass lenses, this includes devices for eye examinations and vision testing, digital consultation and measurement applications, as well as comprehensive services for eye care professionals. ZEISS is one of the world's largest manufacturers of eyeglass lenses and offers a combined competence in eye and vision care that is unique the world over. With its camera and cine lenses, binoculars, spotting scopes and hunting optics, ZEISS offers discerning customers high-end products and applications for their hobbies and professional needs.

Global presence

The ZEISS Group is represented in more than 40 countries and has some 60 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 ZEISS Group's 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

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 ZEISS Group's fundamental objectives: ZEISS aims to leverage its customer focus to consolidate and expand its position as a global technology leader.

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 and therefore requires a systematic strategy geared to continuously enhancing value added.

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

To continue to systematically implement ZEISS's position as a portfolio company organized by market and customer segments, the Executive Board was extended in the reporting year and segment responsibility assigned to its members. The ZEISS Group will press ahead with this organizational and structural development with measures designed to strengthen the strategic business units operating on the market that will be adopted at the beginning of fiscal year 2018/19.

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 ZEISS Group is constantly working on increasing its international business activities.

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

The global economy continued to grow in the reporting period. The market growth of the industrial nations was more dynamic than originally anticipated in fiscal year 2017/18, with significant growth impetus stemming from the US in particular. The dynamically developing economies in Asia recorded another above-average development. Growth in China remained constant at a high level, only tailing off marginally compared to the prior year. In Latin America, the Brazilian economy showed signs of slight recovery while the economy in Mexico continued its upward trajectory.

Segment-specific environment

Semiconductor Manufacturing Technology

Global digitalization has multiplied the areas of application for the semiconductor sector. This has led to global demand for semiconductor products surpassing even positive forecasts, with the boom in the memory chips business in particular driving the industry's revenue up to record levels in the reporting year. Smartphones, data centers and cloud computing all require more and more powerful memory chips. However, growth was also driven by the other semiconductor products, in particular those used in the automotive and industrial sectors. In order to meet the rising demand for semiconductors, chip manufacturers are continuing to invest heavily in equipment for their production. They are expanding their capacity for the production of memory and logic chips in particular (especially microprocessors, graphics processors and application processors).

Industrial Quality & Research

The Group maintained its encouraging global market position in the area of industrial quality assurance in fiscal year 2017/18, while global research spending was roughly unchanged year on year. The automotive and the associated supplier industry were key drivers, as was the ongoing strong trend toward automation and digitalization in production. While the market environment relevant for the segment in Germany continued to develop positively, the US market declined, partly for political reasons. By contrast, the industrial market environment and research expenditure in the academic sector developed positively in the Asia-Pacific (APAC) region.

Medical Technology

The market for medical equipment and accessories again saw stable growth. Growth drivers included medical advances as well as megatrends such as demographic development as a result of increasing life expectancy and population growth. Growing per capita income is increasing demand for basic medical care in the dynamically developing economies. Solutions that increase the efficiency of diagnosis and treatment, improve the effectiveness of patient treatments and reduce the costs for the healthcare system are becoming more crucial in the face of rising health costs and patient numbers. In addition, the increasing regulatory requirements and their variance from one region to another are a growing challenge in the context of product development and licensing.

Consumer Markets

Global market growth in the vision care market remains stable. The main growth drivers are increased purchasing power in emerging economies, the global rise in demand for vision care from an aging population and developments such as the significant increase in short-sightedness (myopia), as well as benchmark-setting innovations for eye care professionals and consumers. However, the global market for eyeglass lenses continues to be characterized by fierce price pressure and ongoing consolidation activities among competitors. The market for cine lenses developed positively in fiscal year 2017/18, thanks in particular to the trend toward full-format cameras, while the market for camera lenses remained challenging and hotly contested. The specialty markets for hunting optics and nature observation also grew slightly.

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

The ZEISS Group participated in the growth of the global economy. Despite strongly negative currency effects, a new revenue high of €5,817m (prior year: €5,348m) was achieved and a return on EBIT of over 13% reported in fiscal year 2017/18.

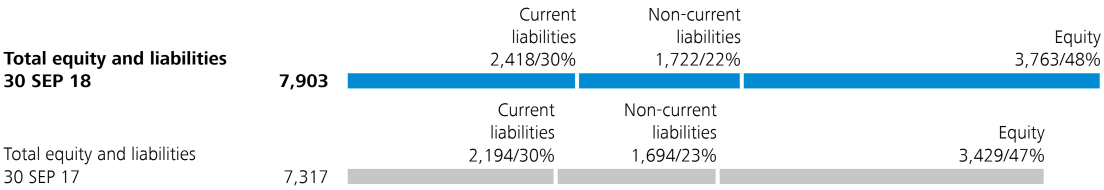
The development forecast in the prior year was thus exceeded.

Net assets

Total assets increased by €586m in the reporting period to €7,903m (prior year: €7,317m). With regard to assets, this resulted mainly from the increase in cash and cash equivalents as well as the change in inventories and trade receivables. The increase in equity based on the good consolidated profit was the main effect on the liabilities side.

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



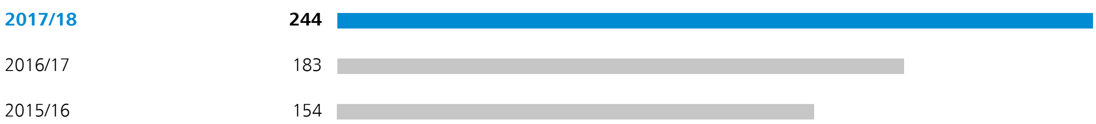
Intangible assets

Intangible assets of €881m (prior year: €777m) mainly contain goodwill of €665m (prior year: €589m). The increase is attributable to the first-time consolidation of Bosello High Technology S.r.l., Cassano Magnago (Italy), Carl Zeiss Meditec Digital Innovations, LLC, Temple (USA), and OPTEC GmbH, Düsseldorf (Germany). 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 2017/18, ZEISS invested a total of €244m in property, plant and equipment (prior year: €183m), mainly in modernization measures relating to production plants and in furniture and fixtures. Depreciation in the reporting period amounted to €164m (prior year: €160m).

Capital expenditures on property, plant and equipment in € m



Other non-current assets

Other non-current assets amounted to €667m (prior year: €819m) 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 10% to €1,195m relates to the cut-off date. Inventories came to €1,391m as of the reporting date (prior year: €1,275m).

Other current assets amounted to €1,277m (prior year: €1,155m). The change mainly resulted from fixed-term deposits with a short-term investment horizon, which were higher than in the prior year.

Trade payables came to €403m as of the reporting date (prior year: €362m).

Current provisions came to €266m (prior year: €275m) 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 €121m to €1,515m (prior year: €1,394m) includes the change in sales-related and personnel-related obligations.

Significant increase in equity

Equity amounted to €3,763m as of the reporting date (prior year: €3,429m). The consolidated profit of €535m generated in the reporting period increased equity. Countereffects resulted from the remeasurement of defined benefit plans, which reduced equity by €41m, and from the dividends of €159m.
The equity ratio of 47.6% was slightly higher than the prior-year level (46.9%).

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 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 €1,309m (prior year: €1,189m). This increase mainly results from transfers to the CTA of €116m. Benefit obligations in Germany increased on account of the interest rate under IFRS, which decreased to 1.90% (prior year: 2.00%). For reasons relating to the cut-off date, this resulted in a funded status of the pension obligations of 80% (prior year: 82%).
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 match the actual obligations 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 €1,144m (prior year: €1,185m) in the consolidated statement of financial position. This is equivalent to 14% of total assets (prior year: 16%).

Financial liabilities
Financial liabilities amounted to €451m (prior year: €343m). This essentially comprises promissory notes, obligations to non-controlling interests, a loan arranged with Kreditanstalt für Wiederaufbau, and issued participating capital.

Profit participation
To enable employees to share in ZEISS's successful performance, employees in Germany received a bonus of up to €2,400 for fiscal year 2017/18, which was paid out in October 2018. Employees at the majority of entities outside Germany also participated in the profit for fiscal year 2017/18 on the basis of the respective country-specific regulations.

Financial position

Sound liquidity base to implement long-term growth strategy
The financial position was mainly shaped by purchases of property, plant and equipment and the good consolidated profit in the reporting year. Furthermore, there were allocations to plan assets in Germany and abroad.

The cash outflows from investing activities were covered in full by the cash inflows from operating activities.

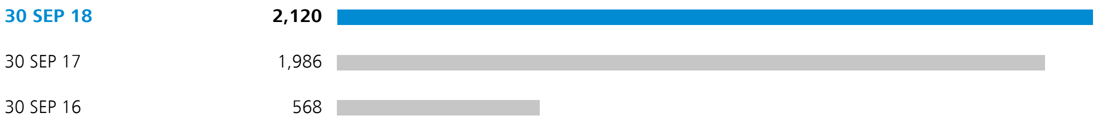
Cash flows from operating activities were primarily determined by the profit for the year and improved by 29% to €576m in the reporting year (prior year: €445m). This is largely attributable to the smaller increase in inventories and trade receivables compared to the prior year. In addition, there were allocations to plan assets in Germany and abroad of €128m.

Cash flows from investing activities came to minus €334m in the reporting period (prior year: minus €642m). Capital expenditures on intangible assets and property, plant and equipment increased by 20% from €231m to €277m in fiscal year 2017/18. Payments for the acquisition of shares in companies came to €106m.

Cash flows from financing activities amounted to minus €89m (prior year: €258m) in fiscal year 2017/18. Dividends of €90m were paid in the reporting year.

Cash and cash equivalents[1] came to €2,327m as of the reporting date (prior year: €2,201m). These contrast with loans payable of €207m (prior year: €215m), which resulted in net liquidity[2] of €2,120m (prior year: €1,986m).

Net liquidity in € m



The financial position offers a good base on which to realize the long-term growth strategy.
In addition, the ZEISS Group has access to a revolving credit facility with a total volume of €500m that was concluded between Carl Zeiss AG and a syndicate of banks in fiscal year 2013/14 to finance its business operations. It has a bullet maturity on 16 July 2021 and serves as a strategic liquidity reserve for the ZEISS Group. In the reporting year, an amount of €22.4m was drawn on the facility in order to ensure selective financing in Brazil.

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 ZEISS Group. In addition, ZEISS strives to continuously improve its financial strength and minimize financial risks. Investments are generally made in securities from issuers with good credit ratings. ZEISS is mainly funded through the operations of its segments, with which the financial activities and strategic orientation are aligned. The ZEISS Group has sufficient cash and cash equivalents and lines of credit to finance its operational and strategic objectives.

Results of operations

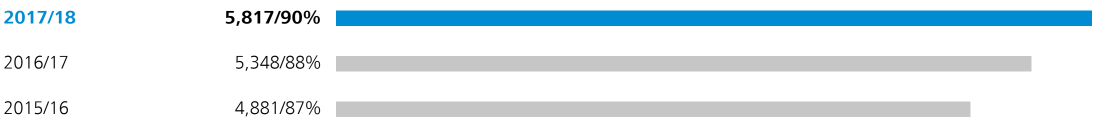
The income statement has been prepared using the cost of sales method that is widely used internationally.

The results of operations are characterized by a significant increase in revenue compared to the prior year and an EBIT margin of over 13%. There were strongly negative currency effects on revenue and profit stemming from the development of the US dollar in particular. Adjusted for these effects, revenue developed positively in all segments and regions.

[1] Cash and cash equivalents plus securities and fixed-term deposits
[2] Cash and cash equivalents less loans payable

Revenue growth in a challenging market environment
In the reporting period, the ZEISS Group's revenue increased by 9% from €5,348m in the prior year to €5,817m, with the share of international revenue of 90% 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 7% (adjusted for currency effects: 11%) in the reporting period to €6,046m (prior year: €5,625m). Incoming orders in the instrument segments increased by a total of 4% (adjusted for currency effects: 8%). The Semiconductor Manufacturing Technology segment recorded an increase in incoming orders of 19% (adjusted for currency effects: 19%) compared to the prior year.

Consolidated revenue by segment

Revenue by segment	2017/18	2016/17	Change compared to prior year as a %	
	€ m	€ m		Adjusted for currency effects
Semiconductor Manufacturing Technology	1,531	1,212	26	27
Industrial Quality & Research	1,549	1,538	1	4
Medical Technology	1,546	1,427	8	14
Consumer Markets	1,106	1,108	0	4
Other	85	63	35	35
ZEISS Group	**5,817**	**5,348**	**9**	**12**

Semiconductor Manufacturing Technology
The Semiconductor Manufacturing Technology segment generated revenue of €1,531m. That is equivalent to an increase of 26% (adjusted for currency effects: 27%) compared to the prior year (€1,212m).

In the reporting year, ZEISS grew significantly compared to the prior year, especially in business with its strategic partner ASML. Thanks to the increasing need for memory chips, ongoing high demand for Deep Ultra Violet (DUV) lithography optics contributed significantly to the level of revenue achieved. Continuously rising orders for Extreme Ultra Violet (EUV) lithography systems, which are higher than initially forecast, demonstrate the series maturity already achieved by this technology. EUV lithography can be used to create even finer chip structures than DUV lithography systems and represents a significant technological advance in the history of chip manufacturing. Several manufacturers are currently starting series production of chips using the latest-generation EUV system. The segment is expanding its capacities in order to meet the demand for DUV and EUV lithography optics.

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

Demand in the segment's other businesses with components and modules for lithography lasers and inspection optics was encouragingly stable on a high level. Sales of photomask systems also made a significant contribution to revenue growth in the reporting year. These solutions are used in the metrology, repair and tuning of photomasks. The segment's process control solutions for applications in the manufacture of semiconductors opened up a new market and made a positive contribution to revenue growth with its first product sales.

As of 30 September 2018, the segment had 3,438 employees worldwide (prior year: 2,879).

Industrial Quality & Research
In fiscal year 2017/18, the segment increased its revenue by 1% (adjusted for currency effects: 4%) from €1,538m in the prior year to €1,549m.

Demand for products in the Industrial Quality & Research segment developed positively during the reporting period. Revenue was up in the area of industrial quality assurance, especially in China, combined with a positive development of market share. Demand for services again grew in all regions and business areas. Adjusted for currency effects, business with microscopy systems for research and science was on a par with the prior year in the reporting year. The segment continues to focus on implementing a multi-channel sales strategy and expanding the software solutions portfolio in response to customer requirements in the Smart Production environment.

As of 30 September 2018, the segment had 6,773 employees worldwide (prior year: 6,303).

Medical Technology
The Medical Technology segment closed the fiscal year with a revenue increase of 8% (adjusted for currency effects: 14%). Revenue rose to €1,546m (prior year: €1,427m).

Contributions to the positive revenue development stemmed from both strategic business units and all regions, with the highest contributions from the Americas and APAC regions. Growth was seen in the Europe, Middle East and Africa (EMEA) region on the back of a stable development in Germany and ongoing solid growth in the other European core markets. Revenue growth in the Americas region was also encouraging and was attributable to the continued positive development on the US market. The APAC region again achieved positive revenue growth. China and South Korea were once more the main contributors, with products for ophthalmic surgery contributing in particular to the positive development of the business.

As of 30 September 2018, the segment had 4,889 employees worldwide (prior year: 4,535). Due to different bases of consolidation, the figures for the Medical Technology segment deviate from those published for Carl Zeiss Meditec AG.

Consumer Markets
At €1,106m, the Consumer Markets segment reported revenue at the prior-year level (€1,108m). Adjusted for currency effects, there was an increase of 4%.

In all regions, growth was achieved in particular with ZEISS precision eyeglass lenses and product innovations that are developed specifically to facilitate good eye sight in the digital world and that pick up on megatrends such as healthcare. The EMEA region reported a significant increase in revenue. Business also developed positively in the rapidly developing economies, in particular in Asia, as well as in the large markets in Central Europe. The USA, as the largest market for vision care, continues to be a challenge, mainly as a result of intense competition among independent eye care professionals and increasing market entry barriers. The business in the strategic Consumer Products business unit was characterized by fierce competition in all areas and high price pressure in some. Against this backdrop, the business unit’s transactions, processes and organizational structures will be simplified and aligned even more closely to the needs of customers and their expectations. In this context, necessary reorganization measures will also be carried out to optimize the cost structure.

As of 30 September 2018, the segment had 10,544 employees worldwide (prior year: 9,771).

Consolidated revenue by region

Revenue by region and cooperation partners	2017/18	2016/17	Change compared to prior year as a %	
	€ m	€ m		Adjusted for currency effects
EMEA	1,718	1,637	5	6
» thereof Germany	596	608	-2	-2
Americas	1,263	1,316	-4	4
APAC	1,407	1,270	11	16
Cooperation partners	1,429	1,125	27	27
ZEISS Group	**5,817**	**5,348**	**9**	**12**

In the economic region of EMEA, ZEISS reported an increase in revenue in the reporting period of 5% (adjusted for currency effects: 6%) to €1,718m (prior year: €1,637m), with revenue in Germany decreasing slightly (down 2%).

Revenue in the Americas region came to €1,263m, which is 4% lower (adjusted for currency effects: 4% higher) than in the prior year (€1,316m). The development of the US dollar had a strongly negative effect in fiscal year 2017/18.

Revenue in the APAC region increased by 11% compared to the prior year (adjusted for currency effects: 16%) to €1,407m (prior year: €1,270m). China continued its growth trajectory in the reporting period.

Direct business with supra-regional cooperation partners increased by 27% to €1,429m in fiscal year 2017/18 (prior year: €1,125m). The main contributory factor was the positive investment behavior in that period in the semiconductor sector.

Functional costs

Cost of sales increased by €253m in comparison to the prior year and came to €2,860m (prior year: €2,607m). Gross profit improved by €216m from €2,741m to €2,957m in the reporting year. As in the prior year, the gross margin was 51%.

Sales and marketing expenses in fiscal year 2017/18 amounted to €1,213m (prior year: €1,109m). The change mainly relates to the instrument business and is attributable to the ZEISS Group’s growth strategy. General administrative expenses were €325m as in the prior year and were steady despite the higher business volume.

Research and development expenses recognized in the consolidated income statement came to €642m in the reporting year (prior year: €552m).

	2017/18	2016/17
	€ m	€ m
Research and development expenses according to consolidated income statement	642	552
Government and third-party grants	110	64
Capitalized development costs (IAS 38)	14	20
Research and development expenses before grants and IAS 38	**766**	**636**

Research and development expenses before grants and capitalized development costs (IAS 38) totaled €766m (prior year: €636m). Representing 13% of revenue and above the prior-year level (prior year: 12%), this figure testifies to the ZEISS Group's continued strong focus on innovation.

Development of earnings

Earnings before interest, taxes, depreciation and amortization (EBITDA) amounted to €1,014m in the reporting year (prior year: €985m).

Earnings before interest and taxes (EBIT) of €772m (prior year: €770m) with an EBIT margin of 13% (prior year: 14%) were generated in the reporting period. The EBIT margin projected in the prior year was exceeded.

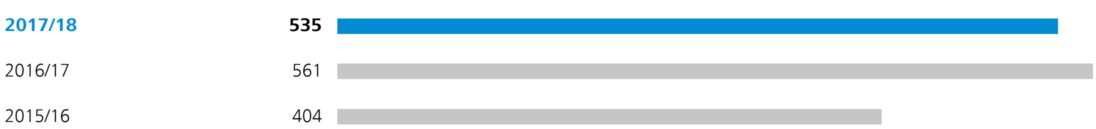
	2017/18	2016/17	2015/16
	€ m	€ m	€ m
EBITDA	1,014	985	819
» EBITDA margin as a %	17	18	17
EBIT	772	770	615
» EBIT margin as a %	13	14	13

The financial result deteriorated by €40m compared to the prior year to minus €53m (prior year: minus €13m). The interest result amounted to minus €25m in the reporting period (prior year: minus €31m). The other financial result deteriorated by €47m to minus €28m (prior year: €19m). This is essentially attributable to measurement effects in connection with foreign currency hedges and the development of the exchange rates important to ZEISS in the reporting year.

The tax expense for fiscal year 2017/18 totaled €184m (prior year: €196m), 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 statement of financial position items and on unused tax losses on account of improved business developments in the reporting year, reducing the tax expense accordingly.

ZEISS thus achieved a consolidated profit of €535m (prior year: €561m).

Consolidated profit/loss in € m



Economic value added generated

ZEISS measures the value added generated using the Economic Value Added (EVA®) indicator. This is the internal measure of the company's success. In fiscal year 2017/18, EVA® amounted to €413m (prior year: €412m). 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.

ZEISS informs stakeholders of its progress in the area of sustainability in a report based on the reporting standard of the Global Reporting Initiative (GRI) and on the sustainability pages at www.zeiss.com/corporate/int/about-zeiss/responsibility. Starting 31 January 2019, a separate non-financial report as defined by Secs. 315b, 315c in conjunction with Secs. 289c to 289e German Commercial Code (HGB) will also be available for the ZEISS Group.

Employees

Highly qualified, dedicated and motivated employees are the foundation for the long-term success of the ZEISS Group. The Group endeavors to conserve this foundation going forward. The total headcount of the ZEISS Group increased as of 30 September 2018 by 2,364 worldwide to 29,309 (prior year: 26,945). The largest increase in the number of employees was seen in Germany, where it rose by 728 to 12,067 (prior year: 11,339).

Diversity is a prerequisite for innovation, which is why it is actively supported and strengthened by ZEISS. Around 59% (prior year: 58%) of the ZEISS workforce – equivalent to 17,242 employees (prior year: 15,606) – work outside Germany. ZEISS is thus well positioned internationally.

The ZEISS Group's research and development departments have 3,248 employees (prior year: 2,872 employees) working on new solutions and technologies for the optics and optoelectronics industries and digital business models. As in the prior year, this is equivalent to 11% of the workforce.

Education and training is a high priority at ZEISS. As of the reporting date, the ZEISS Group had 395 apprentices and trainees as well as students of cooperative state universities offering dual degree programs (prior year: 362). The further training of employees and leadership development are further areas of focus for ZEISS. Employees can select from a large number of courses in the internal qualification program that is also available in digital form as the "Group Learning Program". In addition, ZEISS supports off-the-job training and personnel development measures.

ZEISS promotes occupational health and safety through comprehensive measures. In addition to the advice and support from occupational health and safety professionals and company doctors, 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 workplace design, healthcare competence development among employees and accident prevention.

Societal and social engagement

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-profit organizations and given donations in money and in kind to ensure that medical care is available to all people in developing and emerging countries and that their medical professionals receive training.

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

In addition, dividends distributed 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 a sustainable and economical use of resources as well as protecting the environment and climate. Sustainability is a key consideration – from the development and manufacture of its products, through to packaging, shipment and disposal. To this end, the ZEISS Group has defined corresponding requirements for its entities and suppliers. Furthermore, for the first time in 2018, ZEISS set clear targets for reducing energy consumption, carbon emissions, water consumption and waste. The sustainability report will detail progress in these areas.

In fiscal year 2017/18, ZEISS took part in CDP (formally Carbon Disclosure Project) for the first time and disclosed its answers in the questionnaire on climate change. Furthermore, all the major ZEISS manufacturing sites worldwide work in accordance with the international environmental management standard ISO 14001.

ZEISS launched its initiatives for the efficient handling of energy several years ago. The ZEISS Group sites in the EU have been certified to the energy management standard ISO 50001.

Products and value chain

For over 170 years, ZEISS has been synonymous with innovation. Its specific ownership structure ensures the scope required to enable investments in new developments, products 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, customers and experts 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 8,600 patents worldwide (prior year: 8,400) and applied for new patents for approx. 450 inventions (prior year: approx. 500).

ZEISS aspires to rigorously implement all product safety laws relating to product use and disposal.

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 Responsible Business Alliance (RBA) and implement ongoing measures to meet these requirements. The internationally recognized Code of Conduct is based on the UN guiding principles for business and human rights and was derived from international labor and environmental standards. ZEISS uses a risk-based approach to monitor suppliers and implement sustainability standards.

Integrity and compliance at ZEISS

The company's pledge to act with integrity is based on the historically shaped values of the foundation company ZEISS. Compliance with the law, fair competition and fairness toward business partners and employees are indispensable elements of a successful business. This requires an open and respectful corporate culture, which together with an effective compliance management system ensures that errors are identified, exposed and rectified at ZEISS.

It is vital to the reputation of the company that business partners, customers, public authorities, the general public and competitors all have confidence in the responsible, law-abiding and ethical conduct 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 and extended in fiscal year 2016/17. It details topics such as data protection, product safety, environmental protection and rules against restriction of competition and to combat corruption, and acts as a binding guideline for the business conduct of all employees and executives of the ZEISS Group. There are additional corporate policies for all the topics addressed in the Code of Conduct. With the ZEISS Compliance Management System, the ZEISS Group has also implemented framework conditions to ensure compliance with the law, regulatory requirements as well as internal corporate guidelines.

ZEISS recognizes the relevance of data and data protection and takes the protection of personal data very seriously. A globally consistent structure is therefore in place to protect data effectively.

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 business performance. The assessment of opportunities and risks and the 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 exploit business opportunities and manage the associated risks.

Risk management coordinators apply the central policies and procedures. The management of the segments 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 safeguards to ensure proper operating activities and correct reporting. This enterprise risk management system of the ZEISS Group 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 probability of occurrence. Risks are thus quantified and classified, and the risk-bearing capacity is identified. Due to the broad portfolio and the ZEISS Group's global presence, the strategic and operational risks are highly diversified.

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, including consolidation within the industry, new technologies and competitors, and lower entry barriers for alternative vendors. Risks and opportunities arising from general demands made of companies by society and opportunities due to megatrends, such as digitalization and demographic change are also assessed at regular intervals. In addition, ZEISS analyzes economic, legal and political developments or economic sanctions in the economic regions relevant for the ZEISS Group and evaluates possible scenarios. Its international orientation, sustainable operating policies and balanced portfolio help spread the risk. However, the introduction of trade barriers, customs duties and increasing economic uncertainties could make conditions for ZEISS more difficult.

Innovation risks and opportunities

The success and reputation of ZEISS are heavily dependent on the development of innovative products and solutions. New trends and changing customer requirements can give rise to abrupt technology shifts and make new business models necessary. Current findings from science and research accelerate this development. 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 customers and research institutes, engages in development partnerships including participations and makes targeted technology acquisitions. ZEISS seeks and engages in the targeted promotion of opportunities to extend the existing portfolio with market-shaping innovations. The ZEISS Digital Innovations Partners unit supports the segments in exploiting the opportunities offered by digitalization for customers and partners.

Personnel risks and opportunities

Demographic change and the evolving 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 ZEISS Group offers a broad spectrum of opportunities for development to attract professionals and managers and to retain them in the long term. In addition, a variety of location-based initiatives and social benefits are offered, 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 uncertainty in international trade, 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 in the supplier chain are also driving up costs. To mitigate this risk, ZEISS continuously adapts its strategic supplier pool as part of product group management. ZEISS conducts systematic audits for these suppliers that also include social standards and environmental aspects. RBA compliance is also regularly monitored in the supply chain. ZEISS is continuously working to stabilize supply chains, reduce the dependence on individual suppliers and review partners' business practices in order 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, dependence on the information technology (IT) infrastructure is constantly increasing. The ZEISS Group therefore permanently optimizes its existing IT systems and structures to ensure greater protection, security and availability. Some ZEISS IT systems are operated by external partners. For these service providers, high technical and legal standards regarding the hardware and software deployed, process monitoring and data security have been defined and contractually agreed. 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, for example from cyber attacks, can be considerable.

Risks and opportunities from acquisitions and investments
Acquisitions or investments offer ZEISS the opportunity to better meet customers' needs. Assessments are made as to how to enlarge the competencies and technology portfolio or increase access to the 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 risks and probability of their occurrence are therefore low.

Goodwill totaling €665m 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 intellectual property rights strategy. If patent and brand rights are infringed by third parties, ZEISS 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 prior 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 (for example, to repay financial liabilities or make interest payments). ZEISS has sufficient liquidity reserves in the form of cash and lines of credit. The 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 conducting transactions with several different 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. These include currency and interest rate risks. The associated opportunities and risks of the ZEISS Group are managed centrally. ZEISS 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 rates 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, risks could also arise from the further 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, thereby restricting scope for strategic action. In light of this, the pension rules have been revised.

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.

In principle, further financial risks and risks relating to the statement of financial position can arise from changes to 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 consolidation of the semiconductor sector entails risks and opportunities for the Semiconductor Manufacturing Technology segment, which ZEISS must adapt to in a flexible manner. The segment is well positioned for changing market and technology requirements thanks to an optimized organizational structure. In particular, the series maturity of EUV lithography achieved in the reporting year offers considerable growth opportunities while also presenting high inherent technological risks for the segment. ZEISS therefore collaborates closely with its strategic partner ASML and other development partners in order to jointly steer the next generation of this future-oriented technology to success as well.

The Industrial Quality & Research segment is exposed to risks arising from the dependence on the capital goods industry and particularly the automotive and the associated supplier industries, and their technology roadmap (electromobility) and willingness to invest. This is also true of the international research expenditure in the academic sector. These risks are reduced by continuously developing new application areas, through an innovative product portfolio and by stringently expanding the segment's business with customer services. The segment is therefore improving its product portfolio to tap new market and customer potential, also by integrating digital solutions. Opportunities still arise for the segment from increasingly networked production processes (Smart Production), from the unrelenting 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.

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 treatment systems. Cuts in public budgets can have similar consequences. Refractive surgery is an elective procedure that patients pay for themselves. Demand therefore hinges on the general economic development. Furthermore, new product launches can be delayed or even rejected due to changes in product approval requirements. In 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.

The Consumer Markets segment is exposed to risks arising from fundamental changes in the market, ongoing consolidation in the industry and the concentration of customer structures. Other risks include persistent pressure on prices, the market entry of new providers previously unknown in the sector, as well as competitors who use alternative sales channels or deploy new technologies to establish their own production capacity. Substitution effects in the Consumer Products segment can also lead to risks from a change in consumer behavior. This could give rise to challenges at manufacturing sites. The licensing business in the market for camera lenses depends on the attractiveness of the ZEISS brand for partners of the segment. ZEISS counters this risk by means of a consistent brand strategy. Opportunities will still arise with regard to freeform technology in vision care and, in connection with this, innovative precision eyeglass lenses, the optimization of the value chain, new industry and technology trends, as well as new digital business and service models.

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. There are no significant differences for the overall assessment compared to the prior year. The Executive Board believes that the ZEISS 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

On 22 October 2018, Carl Zeiss Meditec signed an agreement to acquire IanTECH. IanTECH, Inc., with its registered office in Reno, Nevada (USA), is a privately owned company specialized in technical solutions for microinvasive cataract surgery. The company will be integrated in the Ophthalmic Devices strategic business unit. With this acquisition, Carl Zeiss Meditec has taken an important strategic step toward strengthening its technological position in cataract surgery. For more information, please refer to the section on subsequent events in note 32 of the Notes to the Consolidated Financial Statements.

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

REPORT ON EXPECTED DEVELOPMENTS

Future conditions of business development

When these consolidated financial statements for 2017/18 were issued for publication, the global economy was still growing, albeit at a lower rate, with differences between the various regions. Economic momentum in the industrial nations is likely to weaken. The development in the emerging economies, in particular in Asia, should continue to be above average, although the pace in these countries will also be less dynamic. Surging growth rates will be seen again in Latin America, buoyed in particular by the improved outlook for Brazil.

The current prospects for the global economy are clouded by possible risk factors. Due to protectionist and politically motivated activities, the risk of a trade war with its long-term negative effects on global trade cannot be ruled out. Credit-financed investments provide growth impetus, but increasing indebtedness, rising interest rates and large outflows of cash also harbor risks. The unpredictable impact of Brexit, a possible further escalation of the political conflicts in the Middle East and West Asia, Ukraine and in 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 continue to grow in fiscal year 2018/19, albeit at a slightly weaker pace than in the prior year. The semiconductor industry is being boosted by the worldwide digitalization of numerous industries. Due to the current high expenditure in the equipment industry for chip fabs, ZEISS also expects growth in the relevant market segments in fiscal year 2018/19 despite the slight decline projected for the equipment market as a whole. Due to the investments of chip manufacturers in production equipment, ZEISS expects healthy demand in the DUV business and further orders for the current generation of EUVs. Memory overcapacity could cause growth in the semiconductor sector to slow in 2019. As always in the semiconductor sector, further development is characterized by great uncertainty.

Industrial Quality & Research

ZEISS expects business development in Industrial Quality & Research in a competitive environment to be stable overall. A slight improvement in investment behavior is expected for the US, while there are more positive indicators for business in EMEA and also in Asia. ZEISS also anticipates further growth through forward-looking projects, for example in additive manufacturing and electromobility. Positive impetus is expected for the industrial application of microscopes, while public subsidies for research are likely to still be restrictive.

Medical Technology

Medical devices and medical equipment will remain an attractive business field in the healthcare 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 the growth of the industry. From the customer's perspective, a better cost-benefit balance for 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.

Consumer Markets

For business in the Consumer Markets segment, ZEISS expects global growth to remain stable. Major drivers of the development of the vision care market are demographic trends, rising income in the rapidly developing economies, increasing health awareness and growing demand for individualized precision eyeglass lenses. ZEISS expects the advancing digitalization in lens fitting and production, logistics, marketing, sales and customer service to result in major changes. ZEISS expects Consumer Products to face tougher competition. 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

Due to the clear strategic focus and solid positioning of the segments in their respective markets, which ZEISS established and expanded in the past, mainly through its innovative strength, ZEISS plans further revenue growth to around €6b, with an EBIT margin of around 13% for fiscal year 2018/19. In light of the global economic development forecasts available when these consolidated financial statements for 2017/18 were issued for publication that indicate that volatility in the markets will increase, the Executive Board of Carl Zeiss AG considers the goals planned for fiscal year 2018/19 challenging.

Consolidated Financial Statements

Consolidated Income Statement
for the period from 1 October 2017 to 30 September 2018

	Note	2017/18	2016/17
		€ k	€ k
Revenue	7	**5,817,170**	**5,347,804**
Cost of sales		2,860,582	2,606,723
Gross profit		**2,956,588**	**2,741,081**
» Sales and marketing expenses		1,213,342	1,109,242
» General administrative expenses		325,058	324,956
» Research and development expenses		641,839	552,118
» Other income	8	4,441	20,200
» Other expenses	9	8,691	4,808
Earnings before interest and taxes (EBIT)		**772,099**	**770,157**
» Interest income	10	9,805	7,616
» Interest expenses	10	35,159	39,017
» Other financial result	10	-28,194	18,789
Financial result		**-53,548**	**-12,612**
Earnings before taxes (EBT)		**718,551**	**757,545**
» Income taxes	11	183,522	196,175
Consolidated profit/loss		**535,029**	**561,370**
» thereof profit/loss attributable to non-controlling interests		146,967	72,877
» thereof profit/loss attributable to the stockholder of the parent company		388,062	488,493

Consolidated Statement of Comprehensive Income
for the period from 1 October 2017 to 30 September 2018

	Note	2017/18	2016/17
		€ k	€ k
Consolidated profit/loss		**535,029**	**561,370**
Earnings to be reclassified:			
» Currency translation differences		-165	-62,809
» Gains/losses from available-for-sale financial assets		-2,457	-39
» Gains/losses from cash flow hedges		0	391
» Deferred income tax		708	11
Earnings not to be reclassified:			
» Remeasurement of defined benefit plans		-72,209	368,805
» Deferred income tax		31,584	-91,279
Other comprehensive income (after taxes)		**-42,539**	**215,080**
Total comprehensive income		**492,490**	**776,450**
» thereof profit/loss attributable to non-controlling interests		141,992	87,015
» thereof profit/loss attributable to the stockholder of the parent company		350,498	689,435

Consolidated Statement of Financial Position
as of 30 September 2018

Assets	Note	30 SEP 18	30 SEP 17
		€ k	€ k
Non-current assets			
» Intangible assets	12	881,246	776,762
» Property, plant and equipment	13	1,028,083	973,395
» Trade and other receivables	23	40,989	35,879
» Other non-current financial assets	14	662,663	812,999
» Other non-current non-financial assets	15	4,696	6,499
» Deferred taxes	11	666,087	616,435
		3,283,764	**3,221,969**
Current assets			
» Inventories	16	1,390,845	1,275,149
» Trade and other receivables	23	1,194,583	1,090,623
» Other current financial assets	14	1,148,429	1,054,661
» Tax refund claims		27,524	12,250
» Other current non-financial assets	15	128,348	99,924
» Cash and cash equivalents	17	729,299	562,036
		4,619,028	**4,094,643**
		7,902,792	**7,316,612**

Equity and liabilities	Note	30 SEP 18	30 SEP 17
		€ k	€ k
Equity	18		
» Issued capital		120,000	120,000
» Capital reserves		52,770	52,770
» Retained earnings		3,581,358	3,242,146
» Other reserves		-674,332	-636,768
» Non-controlling interests		682,886	651,028
		3,762,682	**3,429,176**
Non-current liabilities			
» Provisions for pensions and similar obligations	19	1,143,660	1,184,589
» Other non-current provisions	20	244,642	212,927
» Non-current financial liabilities	21	246,135	206,528
» Other non-current non-financial liabilities	22	33,012	34,062
» Deferred taxes	11	54,644	55,277
		1,722,093	**1,693,383**
Current liabilities			
» Current provisions	20	266,371	275,417
» Current financial liabilities	21	204,870	136,780
» Trade payables	23	402,947	362,067
» Current income tax payables		28,925	25,340
» Other current non-financial liabilities	22	1,514,904	1,394,449
		2,418,017	**2,194,053**
		7,902,792	**7,316,612**

Consolidated Statement of Changes in Equity
for fiscal year 2017/18[1]

	Issued capital	Capital reserves	Retained earnings	Other reserves: from currency translation	Other reserves: from the remeasurement of defined benefit plans	Other reserves: from available-for-sale financial assets	Other reserves: from cash flow hedges	Equity attributable to the stockholder of the parent company	Non-controlling interests	Consolidated equity
	€ k	€ k	€ k	€ k	€ k	€ k	€ k	€ k	€ k	€ k
1 October 2016	**120,000**	**52,770**	**1,851,412**	**58,460**	**-923,285**	**69**	**-391**	**1,159,035**	**257,320**	**1,416,355**
» 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
Total comprehensive income	**0**	**0**	**488,493**	**-56,820**	**257,399**	**-28**	**391**	**689,435**	**87,015**	**776,450**
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
30 September 2017	**120,000**	**52,770**	**3,242,146**	**2,106**	**-638,915**	**41**	**0**	**2,778,148**	**651,028**	**3,429,176**
» Consolidated profit/loss	0	0	388,062	0	0	0	0	388,062	146,967	535,029
» Other comprehensive income	0	0	0	-410	-35,405	-1,749	0	-37,564	-4,975	-42,539
Total comprehensive income	**0**	**0**	**388,062**	**-410**	**-35,405**	**-1,749**	**0**	**350,498**	**141,992**	**492,490**
Dividends	0	0	-48,850	0	0	0	0	-48,850	-110,460	-159,310
Changes in basis of consolidation	0	0	0	0	0	0	0	0	326	326
Other changes	0	0	0	0	0	0	0	0	0	0
30 September 2018	**120,000**	**52,770**	**3,581,358**	**1,696**	**-674,320**	**-1,708**	**0**	**3,079,796**	**682,886**	**3,762,682**

[1] 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 2017 to 30 September 2018

	2017/18	2016/17
	€ k	€ k
Consolidated profit/loss	535,029	561,370
Amortization, depreciation and impairment net of reversals of impairment losses	242,344	214,876
Changes in provisions for pensions and similar obligations	13,004	9,525
Amounts allocated to the contractual trust arrangement and other plan assets outside Germany	-127,516	-168,417
Changes in other provisions	23,497	47,760
Gain/loss from the disposal of intangible assets and property, plant and equipment	177	352
Gain/loss from the disposal of current securities	-154	-178
Changes in inventories	-102,993	-187,172
Changes in trade receivables	-93,181	-159,278
Changes in deferred taxes	-17,453	-14,533
Changes in other assets	6,374	-40,983
Changes in trade payables	18,953	70,884
Changes in current accruals	105,600	61,446
Changes in advances received	-35,809	44,489
Changes in other liabilities	8,009	4,892
Cash flows from operating activities	**575,881**	**445,033**
Proceeds from the disposal of intangible assets and property, plant and equipment	24,005	15,042
Purchases of intangible assets and property, plant and equipment	-276,674	-231,404
Net cash flow from investments in financial assets including fixed-term investments and securities maturing in >90 days	24,723	-1,364,979
Net cash flow for the acquisition/sale of shares in affiliates	-106,210	939,352
Cash flows from investing activities	**-334,156**	**-641,989**
Dividend paid to Carl Zeiss Foundation (Carl-Zeiss-Stiftung)	-48,850	-25,000
Payments to non-controlling interests	-40,753	-15,657
Proceeds from (financial) loans	16,495	11,894
Repayments of (financial) loans and bonds	-16,303	-26,468
Proceeds from capital increase at Carl Zeiss Meditec AG (net)	0	315,036
Payments for costs in connection with the capital increase at Carl Zeiss Meditec AG	0	-1,575
Cash flows from financing activities	**-89,411**	**258,230**
Changes in cash and cash equivalents	152,314	61,274
Changes in cash and cash equivalents from exchange rate movements and changes in the basis of consolidation	14,949	2,029
Cash and cash equivalents as of 1 October	562,036	498,733
Cash and cash equivalents as of 30 September	**729,299**	**562,036**

Additional information on the statement of cash flows	2017/18	2016/17
	€ k	€ k
Payments of		
» Income taxes	258,952	218,194
» Interest	10,317	12,298
» Dividends	89,603	40,657
Proceeds from		
» Income taxes	5,689	23,644
» Interest	8,760	4,839
» Dividends	450	977

Notes to the Consolidated Financial Statements
for fiscal year 2017/18

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, Industrial Quality & Research, Medical Technology and Consumer Markets.

Carl Zeiss AG exercises the option afforded by Sec. 315e (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 issue their consolidated financial statements for publication 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. 315e (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 2018 were authorized for issue to the Supervisory Board by the Executive Board on 3 December 2018.

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 ZEISS 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. Material associates and joint ventures are accounted for in the consolidated financial statements using the equity method.

The consolidated financial statements contain 34 (prior year: 33) fully consolidated German entities (including Carl Zeiss AG) and 108 (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 is 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 2017	33	103	136
Disposals in the reporting period	0	2	2
Additions in the reporting period	1	7	8
30 September 2018	**34**	**108**	**142**

Disposals from the basis of consolidation

The following entities were removed from the basis of consolidation in the reporting period:

» Carl Zeiss Microscopy Co., Ltd., Tokyo (Japan)
(merged with Carl Zeiss Co., Ltd., Tokyo (Japan) as of 1 May 2018)

» Zaventem Services N.V.-S.A. (formerly Carl Zeiss Services N.V.-S.A.), Zaventem (Belgium)
(sold on 15 June 2018)

The disposals from the basis of consolidation did not have any significant impact on the net assets, financial position and results of operations of the ZEISS Group.

Additions to the basis of consolidation

The following entities were included in the consolidated financial statements for the first time:

» Bosello High Technology S.r.l., Cassano Magnago (Italy)
(from 1 January 2018)

» OPTEC GmbH, Düsseldorf
(from 1 January 2018)

» OOO Optec, Moscow (Russia)
(from 1 January 2018)

» Optec Limited, Minsk (Belarus)
(from 1 January 2018)

» TOO Optec, Almaty District (Kazakhstan)
(from 1 January 2018)

» TOV Optec, Kiev (Ukraine)
(from 1 January 2018)

» Carl Zeiss Co., Ltd., Hsinchu City (Taiwan)
(from 1 October 2017)

» Carl Zeiss Meditec Digital Innovations, LLC, Temple (USA)

The following entities were acquired in fiscal year 2017/18:

Bosello High Technology S.r.l., Cassano Magnago (Italy)
Under an agreement dated 6 December 2017 and effective from 1 January 2018, Carl Zeiss Industrielle Messtechnik GmbH, Oberkochen, Germany, acquired 70% of the shares in Bosello High Technology S.r.l., Cassano Magnago (Italy). The shares were largely acquired with the aim of leveraging the customized solutions provided by Bosello High Technology S.r.l. to develop into an integrated solution provider of non-destructive measurement and testing technology. The companies' common goal is to strengthen inline computed tomography in the production environment in order to improve the level of quality assurance for cast aluminum parts.

The purchase price allocation in accordance with IFRS 3 was performed in the reporting period. As reciprocal put and call options with identical terms and conditions are in place for the remaining 30% of the shares, the non-controlling interests are considered to have been acquired and were accounted for at fair value as a financial liability using the anticipated acquisition method.

The purchase price for 70% of the shares is €70.6m. The identified goodwill of €46.7m contains inseparable intangible assets, in particular from expected synergy effects from the integration of the entity into the existing operations of Carl Zeiss Industrielle Messtechnik GmbH.

The first-time consolidation of Bosello High Technology S.r.l. did not have any significant impact on the net assets, financial position and results of operations of the ZEISS Group.

OPTEC Group
Under an agreement dated 27 December 2017 and effective from 1 January 2018, Carl Zeiss Beteiligungs-GmbH, Oberkochen, (Germany), acquired 51% of the shares in OPTEC GmbH, Düsseldorf, (Germany). The shares were largely acquired in order to strengthen activities in Russia, Ukraine, the CIS states (Commonwealth of Independent States) and Georgia. The OPTEC Group is a longstanding sales and service partner of ZEISS for this region. The OPTEC Group will retain its current sales and service structure in order to operate as a solution provider with its full portfolio of ZEISS products and complementary third-party products.

The purchase price allocation in accordance with IFRS 3 was performed in the reporting period. As reciprocal put and call options with identical terms and conditions are in place for the remaining 49% of the shares, the non-controlling interests are considered to have been acquired and were accounted for at fair value as a financial liability using the anticipated acquisition method.

The provisional purchase price for 51% of the shares was €14.9m and comprises a fixed component of €10.3m and variable revenue-based components of €4.6m resulting mainly from third-party business with non-ZEISS products of the OPTEC Group in the 4 years from 2018 to 2021. The identified goodwill of €16.5m contains inseparable intangible assets, in particular from expected synergy effects from the integration of the entity into the existing operations of the ZEISS Group.

The first-time consolidation of the OPTEC Group did not have any significant impact on the net assets, financial position and results of operations of the ZEISS Group.

Ophthalmic Laser Engines, LLC, Lafayette (USA)
On 24 February 2017, Carl Zeiss Meditec Inc., Dublin (USA), acquired 52% of the shares in Ophthalmic Laser Engines, LLC, Lafayette (USA).

The provisional purchase price was €19.1m and comprised a fixed component of €18.4m and a performance-based component of €0.7m.

At the time of publishing the consolidated financial statements of Carl Zeiss AG as of 30 September 2018, the allocation of the purchase price to the assets and liabilities of the acquired entity had been completed. The identified goodwill of €14.6m chiefly stems from the expected synergy effects from the integration of the entity into the Ophthalmic Devices strategic business unit and corresponds to the goodwill reported in the consolidated financial statements of Carl Zeiss Meditec AG.

For further explanations on this acquisition, we refer to the Annual Report 2016/17.

The first-time consolidation of Ophthalmic Laser Engines, LLC did not have any significant impact on the net assets, financial position and results of operations of the ZEISS Group.

Carl Zeiss Meditec Digital Innovations, LLC (formerly Veracity Innovations, LLC), Temple (USA)
On 18 August 2017, Carl Zeiss Meditec Inc., Dublin (USA), acquired 100% of the shares in Veracity Innovations, LLC, Temple (USA). The company was renamed Carl Zeiss Meditec Digital Innovations, LLC on 3 October 2017.

The purchase price was €12.5m and consisted of a fixed amount of €12.2m, which was paid in August of fiscal year 2016/17 and an amount of €0.3m, which was paid subsequently in the current fiscal year. There is also an agreement on two performancebased components. In fiscal year 2017/18, the business plan was re-assessed as of the acquisition date. Based on these estimates, the criteria for the performance-based components have not been achieved and the latter were restated through other comprehensive income.

Carl Zeiss Meditec Digital Innovations, LLC is a start-up. At the end of fiscal year 2016/17, the company's revenue and profit was immaterial for the Group. Carl Zeiss AG therefore opted not to include it in the consolidated financial statements. At the end of the current fiscal year, the company's profit was material for the Group and it is therefore now included in the basis of consolidation.

At the time of publishing the consolidated financial statements of Carl Zeiss AG as of 30 September 2018, the allocation of the purchase price to the assets and liabilities of the acquired entity had been completed. The identified goodwill of €11.5m chiefly stems from the expected synergy effects from integrating the entity into the Ophthalmic Devices strategic business unit and corresponds to the goodwill reported in the consolidated financial statements of Carl Zeiss Meditec AG. As expected, the goodwill will not be tax deductible.

Changes to shares in subsidiaries currently under control
In fiscal year 2017/18, the following changes were recorded to shares in subsidiaries currently under control:

In the reporting year, Carl Zeiss Far East Co., Ltd., Kwai Fong (Hong Kong), acquired for a purchase price of CNY 1 the remaining 25% of Carl Zeiss Fixture Systems (Changchun) Co., Ltd., Changchun City (China), increasing its share in capital from 75% to 100%.

3 Consolidation principles

The consolidated financial statements are based on the financial statements of the subsidiaries included in the Group as of 30 September 2018, 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.

If reciprocal put and call options with the same terms and conditions are agreed in a business combination for the remaining non-controlling interests, an anticipated purchase of these shares is assumed. As such, no non-controlling interests are recognized. Instead, the conditional purchase price for these shares is reported as a financial liability at fair value.

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%.

	2017/18	2016/17
	€ k	€ k
Revenue	1,280,860	1,189,896
Consolidated profit/loss	126,230	135,778
Other comprehensive income	1,071	600
Total comprehensive income	127,301	136,378

	30 SEP 18	30 SEP 17
	€ k	€ k
Non-current assets	410,996	415,220
Current assets	1,251,056	1,207,888
Non-current liabilities	67,238	65,295
Current liabilities	280,180	316,078
Equity	1,314,634	1,241,735

	2017/18	2016/17
	€ k	€ k
Cash flows from operating activities	187,207	37,732
Cash flows from investing activities	-28,874	-55,931
Cash flows from financing activities	-157,237	14,494
Changes in cash and cash equivalents from exchange rate movements and changes in the basis of consolidation	1,657	-1,080
Changes in cash and cash equivalents	2,753	-4,785

	2017/18	2016/17
	€ k	€ k
Consolidated profit/loss attributable to non-controlling interests	51,628	55,669
Total comprehensive income attributable to non-controlling interests	52,066	57,398
Dividends paid to non-controlling interests	20,101	15,350
Equity attributable to non-controlling interests	537,685	509,111

The partnership between the Semiconductor Manufacturing Technology segment and ASML Holding N.V., Veldhoven (Netherlands), was intensified further in fiscal year 2016/17. 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 financially 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 18	**30 SEP 18**
	€ k	€ k
Non-current assets	44,464	316,428
Current assets	442,887	1,472,365
Non-current liabilities	957	285,546
Current liabilities	436,713	1,396,584
Equity	49,681	106,663
Other comprehensive income	-12	-14,061
Profit/loss for the year	359,475	31,086

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 functional currency of two companies included in the consolidated financial statements is considered to be hyperinflationary in accordance with IAS 29 *Financial Reporting in Hyperinflationary Economies*. However, the effects on the consolidated financial statements are immaterial.

The following key exchange rates for the consolidated financial statements as of 30 September 2018 and 2017 were used for currency translation:

		Closing rate		Average rate	
	€ 1 =	**30 SEP 18**	30 SEP 17	**2017/18**	2016/17
China	CNY	7.9662	7.8534	7.7819	7.5213
UK	GBP	0.8873	0.8818	0.8847	0.8716
Japan	JPY	131.2300	132.8200	131.4525	122.9052
USA	USD	1.1576	1.1806	1.1907	1.1046

6 Accounting policies

The financial statements of the entities included in the consolidated financial statements are prepared in accordance with the accounting policies of the ZEISS Group. 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
19 January 2016	IAS 12 *Income Taxes*	Clarification on recognizing deferred tax assets from unrealized losses for assets recognized at fair value
29 January 2016	IAS 7 *Statement of Cash Flows*	Disclosures on changes to liabilities from financing activities
8 December 2016	Improvements to IFRSs (2014 to 2016)	Clarifications to IFRS 12

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
28 May 2014	IFRS 15 *Revenue from Contracts with Customers*	Recognition of revenue from contracts with customers	Periods beginning on or after 1 January 2018	Yes
24 July 2014	IFRS 9 *Financial Instruments*	Accounting for financial instruments	Periods beginning on or after 1 January 2018	Yes
12 April 2016	IFRS 15 *Revenue from Contracts with Customers*	Clarifications on identifying performance obligations, principal/agent considerations and licenses with transitional arrangements for modified and completed contracts	Periods beginning on or after 1 January 2018	Yes
8 December 2016	IAS 40 *Investment Property*	Clarification on transfers to or from investment property	Periods beginning on or after 1 January 2018	Yes
8 December 2016	Improvements to IFRSs (2014 to 2016)	Clarifications and amendments to IFRS 1 and IAS 28	Periods beginning on or after 1 January 2018	Yes
8 December 2016	IFRIC 22 *Foreign Currency Transactions and Advance Consideration*	Clarification of 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	Yes
13 January 2016	IFRS 16 *Leases*	Accounting for leases	Periods beginning on or after 1 January 2019	Yes
7 June 2017	IFRIC 23 *Uncertainty over Income Tax Treatments*	Clarification on the accounting treatment of uncertainty relating to income taxes	Periods beginning on or after 1 January 2019	Yes
12 October 2017	IAS 28 *Investments in Associates and Joint Ventures*	Clarification on the application of IFRS 9 to long-term investments in associates and joint ventures not accounted for using the equity method	Periods beginning on or after 1 January 2019	No
12 October 2017	IFRS 9 *Financial Instruments*	Clarifications and amendments to financial assets with symmetric prepayment options and modifications of financial liabilities	Periods beginning on or after 1 January 2019	Yes

Date of issue	Standard/interpretation	Amendment/new standard or interpretation	Effective date	Endorsed by the EU
12 December 2017	Improvements to IFRSs (2015 to 2017)	Clarifications and amendments to IFRS 3 and 11 as well as IAS 12 and 23	Periods beginning on or after 1 January 2019	No
7 February 2018	IAS 19 *Employee Benefits*	Clarifications and amendments on effects of plan amendments, curtailments or settlements	Periods beginning on or after 1 January 2019	No
22 October 2018	IFRS 3 *Business Combinations*	Amendments to the determination of whether a business or a group of assets is acquired	Periods beginning on or after 1 January 2020	No
31 October 2018	IAS 1 *Presentation of Financial Statements* and IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*	Clarification and convergence of the definition of materiality in all IFRSs and the Conceptual Framework and an avoidance of the understandability of financial statements being reduced by obscuring material with immaterial information	Periods beginning on or after 1 January 2020	No

IFRS 9 *Financial Instruments* replaces IAS 39 *Financial Instruments: Recognition and Measurement*. 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 financial asset in question on the other. The classification of financial liabilities under IFRS 9 remains largely unchanged compared with the current accounting regulations as defined by IAS 39. At the same time, IFRS 9 also contains changes for calculating impairment losses on financial assets. 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 new rules and regulations also result in additional quantitative and qualitative disclosures in the notes.

For the ZEISS Group, adoption of the standard is mandatory for the first time from the fiscal year 2018/19. When applying IFRS 9 for the first time, the ZEISS Group reserves the right to continue to recognize hedges in accordance with IAS 39 instead of IFRS 9. The ZEISS Group will accumulate any transition effects as of 1 October 2018 in retained earnings and, pursuant to the transitional provisions, present the comparative period in accordance with the current rulings.

Based on the analyses performed, the ZEISS Group does not expect any significant change to result from the reallocation of existing financial assets into individual categories compared to the allocation at present. Only investments that are not consolidated or not included in the consolidated financial statements using the equity method could result in deviating measurements. The non-recurring effect from the new method for calculating impairments of financial assets, which must be recognized in other comprehensive income, will be in the low double-digit millions.

IFRS 15 *Revenue from Contracts with Customers* combines the former standards and interpretations on revenue recognition (IAS 11 and 18, IFRIC 13, 15 and 18 as well as SIC 31). The standard sets out an extensive framework for determining whether, in what amount, and at what point in time revenue is recognized. IFRS 15 provides for a uniform, five-step model for recognizing revenue that is generally applicable to all contracts with customers. Under the new standard, revenue will in the future be recognized when the customer obtains control of the goods or services and can benefit from them. Under IFRS 15, the items contract assets and contract liabilities will be introduced to the statement of financial position. These can arise from contract balances. The new rules and regulations also result in additional quantitative and qualitative disclosures in the notes.

For the ZEISS Group, adoption of the standard is mandatory from fiscal year 2018/19. The ZEISS Group will adopt the standard for the first time using the modified retrospective application method. This means 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 current rulings.

The agreements and business models concerned were analyzed in a group-wide project. On the basis of this, future accounting guidelines on revenue recognition in the ZEISS Group pursuant to IFRS 15 were developed and the relevant business processes adapted. Based on the analyses performed, the introduction of the new items will not result in any significant effects except for changes in disclosures since the current approach for recognizing revenue is already largely in line with the new provisions of IFRS 15.

IFRS 16 *Leases* replaces the former standards and interpretations on the accounting treatment of leases (IAS 17, IFRIC 4, SIC 15 and SIC 27). IFRS 16 revokes the previous distinction between finance and operating leases for lessees and replaces it with a single on-balance sheet accounting model. Under this model, lessees must recognize assets for the right to use the leased asset and lease liabilities in the same amount. As a result, leases not previously accounted for in the statement of financial position must now be reported. Lessor accounting is largely equivalent to the rules previously set out in IAS 17. Lessors must therefore continue to distinguish between finance and operating leases.

The ZEISS Group will early adopt the standard for the first time together with IFRS 15 as of 1 October 2018 using the modified retrospective application method. This means 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 current rulings. For leases previously classified as operating leases under IAS 17 the right of use will be recognized in the amount of the lease liability. The lease liability will be measured at the present value of the outstanding lease payments discounted using the lessee's incremental borrowing rate. Renewal, termination and purchase terms are taken into account during initial measurement of the lease liability if their exercise has become reasonably certain. The exemptions for low-value leased assets and short-term leases will be used.

The agreements and business models concerned were analyzed in a group-wide project. On the basis of this, the future accounting guidelines on leases pursuant to IFRS 16 were developed and the relevant business processes adapted. The analyses showed that the leases in place at the date of transition are expected to increase total assets by an amount in the low triple-digit millions. Most of the minimum lease payments from operating leases mentioned in note 27 Leases will be accounted for in the statement of financial position as a right-of-use asset and lease liability.

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:

	Useful life
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:

	Useful life
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 of impairment 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 3 fiscal years. For the following fiscal years, the cash flows of the third 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 ZEISS 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 are offset against corresponding credit notes if these fulfill the offsetting criteria pursuant to IAS 32.

Hedge accounting
When applying hedge accounting, if 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.

In the ZEISS Group, hedge accounting is currently not applied for hedging relationships designed to hedge exposure from changes in cash flows arising from fluctuation in interest or exchange rates.

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 will likely be recovered. 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 2018 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

ZEISS 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.

Research and development costs are expensed as incurred unless they can be capitalized as part of the cost of the asset. 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:

	2017/18		2016/17	
	€ k	%	€ k	%
Germany	609,761	10	620,845	12
EMEA (without Germany)	2,443,226	42	2,081,338	39
Americas	1,346,916	24	1,362,561	25
APAC	1,417,267	24	1,283,060	24
	5,817,170	**100**	**5,347,804**	**100**

Of revenue, €5,254m (prior year: €4,819m) is attributable to the sale of goods, €516m (prior year: €475m) to the rendering of services and €47m (prior year: €54m) to the granting of licenses.

8 Other income

Other income contains rental income and income from the sale of scrap, as well as other income not attributable to functional costs.

9 Other expenses

Other expenses contain losses from the disposal of non-current assets, expenses from additions to other provisions and other operating expenses not attributable to functional costs.

10 Financial result

Interest result

	2017/18	2016/17
	€ k	€ k
Interest income	**9,805**	**7,616**
» thereof from affiliates	277	250
Interest expenses	**35,159**	**39,017**
» thereof to affiliates	134	213
» thereof interest cost for pensions	22,160	23,590
	-25,354	**-31,401**

Other financial result

	2017/18	2016/17
	€ k	€ k
Income from investments	581	1,208
Income from profit transfer	1,952	2,564
Expenses for loss absorption	842	3,219
Investment result	**1,691**	**553**
Income/expenses from exchange differences	-22,638	-17,870
Income/expenses from changes in market value	-13,605	32,683
Sundry other financial result	6,358	3,423
Other financial result	**-28,194**	**18,789**

Income from investments includes income from affiliates of €173k (prior year: €626k).

The expenses from exchange differences and changes in market value should be seen in the context of the hedging of currency risks.

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:

	2017/18	2016/17
	€ k	€ k
Current tax expenses less tax refunds and reversal of tax provisions	216,600	210,625
Deferred tax income	-33,078	-14,450
» thereof from temporary differences	-55,645	-11,938
» thereof from changes in tax rates	23,596	1,364
» thereof from unused tax losses including any reductions	-1,029	-3,876
	183,522	**196,175**

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 27.7% to 31.0% (prior year: 27.2% to 30.2%). The tax rates form the basis for the calculation of current taxes.

The nominal tax rates applicable outside Germany in the reporting period range between 7.5% and 35.0% (prior year: 9.0% and 38.4%).

The total amount of deferred tax assets and liabilities as of 30 September 2018 is allocated to the following items of the statement of financial position:

	30 SEP 18		30 SEP 17	
	Assets	Liabilities	Assets	Liabilities
	€ k	€ k	€ k	€ k
Non-current assets	**21,776**	**65,700**	**21,804**	**88,619**
Intangible assets	11,062	39,832	13,567	44,324
Property, plant and equipment	4,923	25,125	5,237	28,100
Other non-current assets	5,791	743	3,000	16,195
Current assets	**71,606**	**23,344**	**85,822**	**35,017**
Inventories	61,011	5,324	71,125	6,038
Receivables and other current assets	10,595	18,020	14,697	28,979
Non-current liabilities	**456,579**	**917**	**444,354**	**2,244**
Provisions for pensions and similar obligations	414,423	823	394,570	0
Other non-current liabilities	42,156	94	49,784	2,244
Current liabilities	**86,302**	**6,360**	**66,474**	**2,704**
Outside basis differences	**0**	**2,902**	**0**	**2,086**
Unused tax losses	**76,859**	**0**	**77,479**	**0**
Total deferred taxes	**713,122**	**99,223**	**695,933**	**130,670**
Impairment losses	2,456	0	4,105	0
Offsetting	44,579	44,579	75,393	75,393
Deferred taxes, net	**666,087**	**54,644**	**616,435**	**55,277**

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

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

The unused tax losses for which no deferred taxes were recognized amount to €148,502k (prior year: €211,947k). Most of these are available for offsetting for more than 5 years or never expire. As of the reporting date these unused tax losses were classified as not likely to be usable because based on the forecasts it is not likely that future taxable profit will be available. Consolidation measures gave rise to deferred tax assets of €51,858k (prior year: €55,117k) and deferred tax liabilities of €37,988k (prior year: €36,409k).

In the reporting period, the tax rate of the parent company Carl Zeiss AG of 28.78% (prior year: 31.1%) was used for the first time as the tax rate applicable for the reconciliation of the expected income tax expense of €206,799k (prior year: €235,596k), based on earnings before taxes, to the current income tax expense of €183,522k (prior year: €196,175k).

The tax reconciliation statement is presented in the table below:

	2017/18	2016/17
	€ k	€ k
Earnings before taxes (EBT)	718,551	757,545
Expected income tax expense (= 28.78% x EBT; prior year: = 31.1% x EBT)	**206,799**	**235,596**
Differences from diverging tax rates	-10,839	-15,630
Effects of changes in tax rates	23,596	1,364
Effects of non-deductible expenses	16,538	29,337
Effects of tax-free income	-4,858	-2,592
Effects relating to other periods	-29,699	-22,246
Permanent effects	-9,537	-26,593
Other	-8,478	-3,061
Current income tax expense	**183,522**	**196,175**

NOTES TO THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

12 Intangible assets

The goodwill amounting to €664,537k (prior year: €588,908k) 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 3 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 for fiscal year 2017/18. This allows goodwill to be allocated to the individual segments or, more specifically, business groups/strategic business units as follows:

	30 SEP 18		30 SEP 17	
	Carrying amounts	WACC (after tax)	Carrying amounts	WACC (after tax)
	€ k	%	€ k	%
» Semiconductor Metrology Systems	42,975	11.8	42,375	12.1
Semiconductor Manufacturing Technology	**42,975**		**42,375**	
» Industrial Metrology	87,883	8.4	39,437	9.3
» Microscopy	48,035	9.1	42,598	8.6
Research & Quality Technology	**135,918**		**82,035**	
» Ophthalmic Devices	155,461	10.3	137,062	9.3
» Microsurgery	4,188	10.3	1,441	9.3
Medical Technology	**159,649**		**138,503**	
» Vision Care	325,995	6.0	325,995	5.9
Vision Care/Consumer Products	**325,995**		**325,995**	
Total	**664,537**		**588,908**	

The changes in the Research & Quality Technology and Medical Technology segments' cash-generating units primarily stem from the first-time consolidation of Bosello High Technology S.r.l., Cassano Magnago (Italy), Carl Zeiss Meditec Digital Innovations, LLC, Temple (USA) and OPTEC GmbH, Düsseldorf (Germany). 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
Cost					
1 October 2016	**405,832**	**678,623**	**215,956**	**136,289**	**1,436,700**
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
30 September 2017	**424,305**	**681,246**	**231,097**	**136,216**	**1,472,864**
Amortization/impairment					
1 October 2016	**335,362**	**96,633**	**131,156**	**91,484**	**654,635**
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
30 September 2017	**357,181**	**92,338**	**147,162**	**99,421**	**696,102**
Carrying amounts as of 30 September 2017	**67,124**	**588,908**	**83,935**	**36,795**	**776,762**

Cost					
1 October 2017	**424,305**	**681,246**	**231,097**	**136,216**	**1,472,864**
Change in the basis of consolidation	35,957	74,688	0	38,450	149,095
Additions	14,111	0	14,241	3,939	32,291
Disposals	14,039	354	23	2,238	16,654
Reclassifications	7,953	0	0	-7,953	0
Exchange differences	1,435	2,238	1,607	19	5,299
30 September 2018	**469,722**	**757,818**	**246,922**	**168,433**	**1,642,895**
Amortization/impairment					
1 October 2017	**357,181**	**92,338**	**147,162**	**99,421**	**696,102**
Change in the basis of consolidation	216	0	0	963	1,179
Additions	30,778	0	20,661	26,428	77,867
Disposals	13,975	0	0	2,234	16,209
Reversal of impairment losses	0	0	0	0	0
Reclassifications	0	0	0	0	0
Exchange differences	1,273	943	630	-136	2,710
30 September 2018	**375,473**	**93,281**	**168,453**	**124,442**	**761,649**
Carrying amounts as of 30 September 2018	**94,249**	**664,537**	**78,469**	**43,991**	**881,246**

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
Cost					
1 October 2016	**743,353**	**841,876**	**920,346**	**60,526**	**2,566,101**
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
30 September 2017	**740,551**	**866,831**	**951,924**	**89,139**	**2,648,445**
Depreciation/impairment					
1 October 2016	**308,291**	**563,642**	**715,482**	**0**	**1,587,415**
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
30 September 2017	**330,480**	**594,949**	**749,621**	**0**	**1,675,050**
Carrying amounts as of 30 September 2017	**410,071**	**271,882**	**202,303**	**89,139**	**973,395**
Cost					
1 October 2017	**740,551**	**866,831**	**951,924**	**89,139**	**2,648,445**
Change in the basis of consolidation	79	1,261	3,125	47	4,512
Additions	25,701	39,513	76,064	103,105	244,383
Disposals	2,082	17,681	46,401	7,115	73,279
Reclassifications	7,057	38,916	11,745	-57,718	0
Exchange differences	-528	-3,445	-1,808	-142	-5,923
30 September 2018	**770,778**	**925,395**	**994,649**	**127,316**	**2,818,138**
Depreciation/impairment					
1 October 2017	**330,480**	**594,949**	**749,621**	**0**	**1,675,050**
Change in the basis of consolidation	67	750	1,611	0	2,428
Additions	32,545	61,416	70,516	0	164,477
Disposals	1,624	15,366	32,552	0	49,542
Reversal of impairment losses	0	0	0	0	0
Reclassifications	0	-27	27	0	0
Exchange differences	-11	-1,095	-1,252	0	-2,358
30 September 2018	**361,457**	**640,627**	**787,971**	**0**	**1,790,055**
Carrying amounts as of 30 September 2018	**409,321**	**284,768**	**206,678**	**127,316**	**1,028,083**

Property, plant and equipment with a net carrying amount of €53,602k (prior year: €51,374k) 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 €211,042k as of the reporting date (prior year: €133,336k).

14 Other financial assets

	30 SEP 18		30 SEP 17	
		thereof due in more than 1 year		thereof due in more than 1 year
	€ k	€ k	€ k	€ k
Shares in affiliates	39,505	39,505	33,734	33,734
Investments	3,711	3,711	1,642	1,642
Loans	42,494	38,230	43,820	42,494
Securities	268,258	201,661	240,627	81,775
Derivatives	5,430	0	41,245	0
Sundry other financial assets	1,451,694	379,556	1,506,592	653,354
	1,811,092	**662,663**	**1,867,660**	**812,999**

The sundry other 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.

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 18	30 SEP 17
	€ k	€ k
Materials and supplies	370,951	325,089
Work in progress	449,894	469,595
Finished goods and merchandise	547,600	461,781
Advances	22,400	18,684
	1,390,845	**1,275,149**

The carrying amounts contain write-downs of €176,983k (prior year: €168,589k).

The write-downs recorded on inventories, which are recognized under cost of sales in the consolidated income statement, amounted to €51,032k in the reporting period (prior year: €65,339k). Write-downs of €9,121k (prior year: €8,751k) were reversed through profit or loss.

Cost of materials amounted to €1,685m in the fiscal year (prior year: €1,542m).

17 Cash and cash equivalents

	30 SEP 18	30 SEP 17
	€ k	€ k
Cash funds	569,085	461,139
Securities due in less than 90 days of their acquisition date	160,214	100,897
	729,299	**562,036**

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: -0.4% and 0.0%).

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 €48,850k was distributed in the reporting period (prior year: €25,000k).

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
» available-for-sale financial assets and
» 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 proportionate share of non-controlling interests in equity.

In fiscal year 2016/17, 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 financially 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 German Stock Corporation Act (AktG), the capital increase is fully reflected in the shares of the non-controlling interests.

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 €82,118k in the reporting period (prior year: €76,585k).

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 certain period of service.

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 2018 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	
	2017/18	2016/17	**2017/18**	2016/17
	%	%	%	%
Interest rate	1.90	2.00	0.47 to 8.00	0.42 to 7.00
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 3.40	0.00 to 3.45

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 18
	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	2,375,217	1,308,500	0	1,066,717
Other countries	298,792	226,836	468	72,424
Carrying amount	**2,674,009**	**1,535,336**	**468**	**1,139,141**
» thereof pension provisions				1,143,660
» thereof other financial assets				4,519

				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
Carrying amount	**2,585,228**	**1,408,893**	**5,809**	**1,182,144**
» thereof pension provisions				1,184,589
» thereof other financial assets				2,445

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

	30 SEP 18	30 SEP 17
	€ k	€ k
Present value of funded pension obligations	1,870,327	1,668,239
Plan assets	1,535,336	1,408,893
Funded status (net)	**334,991**	**259,346**
Present value of unfunded pension obligations	**803,682**	**916,989**
Adjustment on account of asset ceiling	467	5,809
Carrying amount	**1,139,140**	**1,182,144**
» thereof pension provisions	1,143,660	1,184,589
» thereof other financial assets	4,519	2,445

Pension provisions developed as follows:

	2017/18	2016/17
	€ k	€ k
1 October	**1,184,589**	**1,718,558**
Recognized through profit or loss		
Service cost	61,954	54,244
Net interest cost	22,160	23,590
Recognized in other comprehensive income		
Benefits paid	-73,190	-71,830
Remeasurements	72,209	-368,805
Employer contributions	-127,516	-168,417
Exchange differences on translation	887	-6,095
Other	2,567	3,344
30 September	**1,143,660**	**1,184,589**

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:

	2017/18	2016/17
	€ k	€ k
1 October	**2,585,228**	**2,907,274**
Change in the basis of consolidation	498	0
Service cost	61,954	54,244
Interest cost	52,503	42,080
Benefits paid	-86,880	-83,769
Remeasurements		
» Actuarial gains/losses as a result of changes in demographic assumptions	24,688	435
» Actuarial gains/losses as a result of changes in financial assumptions	34,622	-357,478
» Actuarial gains/losses as a result of experience adjustments	-2,658	36,859
Exchange differences on translation	2,935	-15,641
Other	1,119	1,224
30 September	**2,674,009**	**2,585,228**

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

	30 SEP 18	30 SEP 17
	€ k	€ k
Active employees	1,286,131	1,242,513
Former employees with vested rights	249,144	234,889
Pensioners	1,138,734	1,107,826
	2,674,009	**2,585,228**

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

	2017/18	2016/17
	€ k	€ k
1 October	**1,408,893**	**1,190,801**
Interest income	30,493	18,516
Remeasurements	-21,007	53,065
Employer contributions	127,516	168,417
Employee contributions	192	242
Withdrawals for benefit payments	-13,690	-11,939
Exchange differences on translation	2,048	-9,546
Other	891	-663
30 September	**1,535,336**	**1,408,893**

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

Employer contributions to plan assets for the following fiscal year are expected to amount to €2,954k.

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 with 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 18	30 SEP 17
	€ k	€ k
Stocks and stock funds	492,373	460,923
Pensions and pension funds	509,967	531,613
Real estate and real estate funds	9,512	10,475
Cash and cash equivalents	309,182	220,888
Other assets	214,302	184,994
	1,535,336	**1,408,893**

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 18
Change in the present value of the defined benefit obligations (DBO)	Increase by 0.5%	Decrease by 0.5%
	€ k	€ k
Interest rate	-235,949	276,427
Future salary increases	26,480	-23,738
Future pension increases	116,158	-106,424

A 1-year increase in life expectancy would lead to an increase of €130,423k 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 fiscal years ahead	€ k
Fiscal year 2018/19	83,579
Fiscal year 2019/20	86,068
Fiscal year 2020/21	87,969
Fiscal year 2021/22	90,039
Fiscal year 2022/23	91,866
Fiscal years 2023/24 up to and including 2027/28	490,585

The average weighted duration of the pension plans is about 20 years in Germany, about 13 years in the USA and about 18 years in the UK.

20 Other provisions

	30 SEP 18		30 SEP 17	
		thereof due within 1 year		thereof due within 1 year
	€ k	€ k	€ k	€ k
Provisions for income taxes	43,259	43,259	77,028	77,028
Provisions for personnel-related obligations	39,706	9,102	39,122	18,848
Provisions for sales-related obligations	206,503	153,149	127,166	105,171
Sundry other provisions	221,545	60,861	245,028	74,370
	511,013	**266,371**	**488,344**	**275,417**

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 17	Change in basis of consolidation	Utilization	Reversal	Additions	Unwinding of the discount and effects from changes in the discount factor	Exchange differences	30 SEP 18
	€ k	€ k	€ k	€ k	€ k	€ k	€ k	€ k
Provisions for income taxes	77,028	0	-66,881	-5,043	38,303	0	-148	43,259
Provisions for personnel-related obligations	39,122	0	-16,915	-798	18,342	40	-85	39,706
Provisions for sales-related obligations	127,166	411	-40,929	-8,820	129,308	0	-633	206,503
Sundry other provisions	245,028	55	-33,195	-11,203	21,151	132	-423	221,545
	488,344	**466**	**-157,920**	**-25,864**	**207,104**	**172**	**-1,289**	**511,013**

21 Financial liabilities

	30 SEP 18			30 SEP 17		
		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	207,076	39,127	27,498	215,135	23,319	27,500
Loans	5,052	5,052	0	52,552	52,552	0
Derivatives	19,069	18,996	0	8,711	7,765	0
Lease liabilities	11,457	3,806	0	6,863	3,157	0
Other financial liabilities	208,351	137,889	0	60,047	49,987	0
	451,005	**204,870**	**27,498**	**343,308**	**136,780**	**27,500**

Liabilities to banks

Promissory notes of €200m were placed in prior years. In June 2016, some of the promissory notes were renewed and some were refinanced at new conditions. The part of €33m that was not renewed was repaid to the investors. The contractually agreed terms of the promissory notes totaling €167m break down as follows:
» €87m with a term of 5 years
» €52.5m 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 €22.4m was drawn in the reporting period to fund activities in other countries. There are also foreign credit facilities of €8.2m.

An annuity loan of €45m was borrowed from Kreditanstalt für Wiederaufbau by an 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 €18,417k as of the reporting date.

Lease liabilities
The finance lease liabilities are detailed in note 27 Leases.

Other financial liabilities
Obligations to non-controlling interests
Obligations to non-controlling interests amount to €147m (prior year: €20m) and contain dividend obligations to ASML Holding N.V., Veldhoven (Netherlands), and purchase price obligations from the acquisition of shares in Bosello High Technology S.r.l., Cassano Magnago (Italy), and the OPTEC Group.

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 2013-D, 2014-D, 2015-D and 2016-D series, each with a term of 5 years and a nominal volume totaling €9,125k.

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. As of the reporting date, these comprise participation certificates of the 2017-D series, each with a term of 5 years and a nominal volume totaling €4,048k.

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 revenue performance.

The recipients are the employees of Carl Zeiss AG and its affiliates in Germany. 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

	30 SEP 18		30 SEP 17	
		thereof due within 1 year		thereof due within 1 year
	€ k	€ k	€ k	€ k
Advances received on account of orders	519,746	519,418	550,969	550,333
Personnel-related obligations	377,548	377,548	345,560	345,560
Sales-related obligations	347,021	347,021	273,390	273,390
Deferred income	146,671	116,428	144,501	113,029
Sundry other non-financial liabilities	156,930	154,489	114,091	112,137
	1,547,916	**1,514,904**	**1,428,511**	**1,394,449**

The 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 18	30 SEP 17
	€ k	€ k
Trade and other receivables (gross)	**1,260,069**	**1,164,123**
(Portfolio-based) valuation allowance	24,995	37,765
Allowance for exchange differences	498	144
Trade and other receivables (net)	**1,235,572**	**1,126,502**
» thereof due in more than 1 year	40,989	35,879

As of 30 September 2018, trade and other receivables include receivables of €17,517k (prior year: €29,741k) from long-term construction contracts billed according to the percentage-of-completion method and finance lease receivables of €16,358k (prior year: €11,807k).

Revenue of €44,424k (prior year: €69,861k) 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 €44,424k (prior year: €69,861k). Advances received of €1,333k (prior year: €1,227k) have already been taken into account in the settlement of construction contracts. As of 30 September 2018, security retentions by customers for construction contracts amounted to €2,435k (prior year: €3,146k).

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:

	2017/18	2016/17
	€ k	€ k
1 October	**37,765**	**29,672**
Change in the basis of consolidation	110	0
Utilization	-6,811	-2,745
Reversal	-16,692	-5,561
Addition	10,910	17,151
Exchange rate effects	-287	-752
30 September	**24,995**	**37,765**

The calculation of the percentages used for the portfolio-based valuation allowances was reviewed in the fiscal year. The review showed that the percentages used to date no longer adequately provide for the credit risk associated with trade receivables. The respective valuation allowances were therefore adjusted, resulting in a reversal of €10m in the reporting year.

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

	30 SEP 18	30 SEP 17
	€ k	€ k
Trade and other receivables (net)	**1,235,572**	**1,126,502**
» thereof neither impaired nor past due as of the reporting date	824,200	816,316
» thereof not impaired as of reporting date but past due by the following time periods:		
» up to 30 days	179,046	146,732
» 31 to 90 days	114,894	49,633
» 91 to 180 days	34,919	36,152
» 181 to 365 days	23,474	17,989
» 366 days and more	17,542	19,952

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 non-derivative financial instruments and the resulting limit to the credit risk:

	30 SEP 18	30 SEP 17
	€ k	€ k
Trade and other receivables (before offsetting)	1,300,226	1,163,827
Offsetting of credit notes issued	64,654	37,325
Remaining credit risk	**1,235,572**	**1,126,502**

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

	30 SEP 18	30 SEP 17
	€ k	€ k
Derivatives with a positive market value	5,430	41,245
Amount available for offsetting in the event of insolvency	5,364	7,695
Remaining credit risk	**66**	**33,550**

Another credit risk is connected to the investment of cash if the banks are not 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 18	30 SEP 17
	€ k	€ k
Trade payables (before offsetting)	408,022	370,513
Offsetting of credits notes issued	5,075	8,446
Remaining liquidity risk	**402,947**	**362,067**

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

	30 SEP 18	30 SEP 17
	€ k	€ k
Derivatives with a negative market value	19,069	8,711
Amount available for offsetting in the event of insolvency	5,364	7,695
Remaining liquidity risk	**13,705**	**1,016**

Liquidity is ensured by means of ongoing, group-wide 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 group-wide scale. The available liquidity as well as the revolving credit facility agreed in fiscal year 2013/14 give the ZEISS Group adequate flexibility to cover the Group's refinancing needs. The ZEISS Group is not subject to any concentration of 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			
	due within 1 year	due in 1 to 5 years	due in more than 5 years	**Total 30 SEP 18**
	€ k	€ k	€ k	€ k
Trade payables	402,947	0	0	**402,947**
Financial liabilities				
» Liabilities to banks	41,423	149,072	28,531	**219,026**
» Loans	5,120	0	0	**5,120**
» Lease liabilities	4,508	8,165	0	**12,673**
» Other financial liabilities	139,064	70,463	0	**209,527**
Guarantees	6,395	0	0	**6,395**

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

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

	Undiscounted cash outflows			
	due within 1 year	due in 1 to 5 years	due in more than 5 years	**Total 30 SEP 18**
	€ k	€ k	€ k	€ k
Derivative financial liabilities settled on a gross basis				
» Cash outflows	711,303	0	0	**711,303**
» Cash inflows	686,383	0	0	**686,383**

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

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.

These value-at-risk analyses are 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 correlations 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 €0.7m (prior year: €0.8m).

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 +/- €8.7m on profit or loss (prior year: +/- €7.1m). 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 +/- €2.4m on equity (prior year: +/- €1.0m).

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

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 18
		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.	1,235,572	1,219,214	16,358	*
Other financial assets					
» Shares in affiliates	AfS	39,505	39,505		*
» Investments	AfS	3,711	3,711		*
» Loans	LaR	42,494	42,494		*
» Securities	AfS	268,258			268,258
» Derivatives	FVtPL	5,430			5,430
» Other financial assets	LaR	1,451,694	1,451,694		*
Cash and cash equivalents	LaR	729,299	729,299		*
Financial assets		**3,775,963**	**3,485,917**	**16,358**	**273,688**
Trade payables	FLAC	402,947	402,947		*
Other financial liabilities					
» Liabilities to banks	FLAC	207,076			219,138
» Loans	FLAC	5,052	5,052		*
» Derivatives	FVtPL	19,069			19,069
» Lease liabilities	n.a.	11,457		11,457	12,648
» Other financial liabilities	FLAC	208,351	208,351		*
Financial liabilities		**853,952**	**616,350**	**11,457**	**250,855**
Aggregated by measurement category in accordance with IAS 39					
Loans and receivables	LaR	3,459,059	3,442,701		
Financial assets at fair value through profit or loss	FVtPL	5,430			5,430
Available-for-sale financial assets	AfS	311,474	43,216		268,258
Financial liabilities at amortized cost	FLAC	823,426	616,350		219,138
Financial liabilities held for trading	FVtPL	19,069			19,069

					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
» Other financial assets	LaR	1,506,592			1,523,612
Cash and cash equivalents	LaR	562,036	562,036		*
Financial assets		**3,556,198**	**1,755,927**	**11,807**	**1,805,484**
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
» Lease liabilities	n.a.	6,863		6,863	7,509
» Other financial liabilities	FLAC	60,047	60,047		*
Financial liabilities		**705,375**	**474,666**	**6,863**	**253,844**
Aggregated by measurement category in accordance with IAS 39					
Loans and receivables	LaR	3,238,950	1,720,551		1,523,612
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

* 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:

Fair value				**30 SEP 18**
	Level 1	Level 2	Level 3	Total
	€ k	€ k	€ k	€ k
Securities	205,392	62,866	0	268,258
Derivatives	0	5,430	0	5,430
Financial assets	**205,392**	**68,296**	**0**	**273,688**
Liabilities to banks	0	219,138	0	219,138
Derivatives	0	19,069	0	19,069
Lease liabilities	0	12,648	0	12,648
Financial liabilities	**0**	**250,855**	**0**	**250,855**

Fair value				30 SEP 17
	Level 1	Level 2	Level 3	Total
	€ k	€ k	€ k	€ k
Securities	121,024	119,603	0	240,627
Derivatives	0	41,245	0	41,245
Sundry other financial assets	0	1,523,612	0	1,523,612
Financial assets	**121,024**	**1,684,460**	**0**	**1,805,484**
Liabilities to banks	0	237,624	0	237,624
Derivatives	0	8,711	0	8,711
Lease liabilities	0	7,509	0	7,509
Financial liabilities	**0**	**253,844**	**0**	**253,844**

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*:

				2017/18
		thereof from interest	thereof from subsequent measurement	thereof from disposals
	€ k	€ k	€ k	€ k
Loans and receivables	-539	8,023	-8,554	-8
Available-for-sale financial assets	896	650	92	154
Financial assets and liabilities at fair value through profit or loss	-18,731	0	-13,605	-5,126
Financial liabilities measured at amortized cost	-18,523	-9,866	-8,657	0

				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

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

In the prior years, 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. In the prior years, the ineffective portion of the currency hedges was included in the income and expenses from changes in market value, respectively. The planned revenue was no longer expected to occur in the prior year, meaning that the amounts recognized in other comprehensive income in the prior year were reclassified to the financial result through profit or loss.

	30 SEP 18	30 SEP 17
	€ k	€ k
Fair value of hedge	0	0
Recognized in other comprehensive income	0	0
Reclassified through profit or loss	0	391

No hedging relationships designed to hedge exposure from changes in cash flows arising from fluctuation in exchange rates were 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. As for government grants for research and development, third-party subsidies are offset against investments in property, plant and equipment. 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.

Changes to liabilities from financing activities during the fiscal year are shown in the table below:

			Non-cash changes		
	1 OCT 17	Cash changes	from currency translation	from changes in the basis of consolidation	30 SEP 18
	€ k	€ k	€ k	€ k	€ k
Liabilities to banks	215,135	-4,116	-3,943	0	207,076
Lease liabilities	6,863	4,308	236	50	11,457
	221,998	**192**	**-3,707**	**50**	**218,533**

25 Contingent liabilities and assets

	30 SEP 18	30 SEP 17
	€ k	€ k
Liabilities from guarantees	6,395	10,456
Guarantee commitment obligations	167	0
Other contingent liabilities	1,720	371

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

26 Average headcount for the year and personnel expenses

	2017/18	2016/17
	Number	Number
Germany	11,429	10,721
EMEA (without Germany)	4,197	3,862
Americas	6,482	6,161
APAC	5,651	5,076
	27,759	**25,820**
Trainees	372	360
Total	**28,131**	**26,180**

The average number for the year is calculated on the basis of full-time equivalents.

Personnel expenses break down as follows:

	2017/18	2016/17
	€ k	€ k
Wages and salaries	1,657,092	1,539,456
Social security	258,933	237,369
Pension costs	67,888	60,175
Total	**1,983,913**	**1,837,000**

27 Leases

Operating leases – ZEISS 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:

	2017/18	2016/17
	€ k	€ k
Minimum lease payments	70,141	69,264
» thereof sale-and-leaseback	7,126	8,718
Contingent rent	2,853	2,068
» thereof sale-and-leaseback	0	0
Sublease payments	0	56
» thereof sale-and-leaseback	0	0
	72,994	**71,388**

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

	2017/18	2016/17
Term to maturity	€ k	€ k
Less than 1 year	57,743	46,967
» thereof sale-and-leaseback	8,007	8,885
Between 1 and 5 years	108,841	93,361
» thereof sale-and-leaseback	9,012	14,214
More than 5 years	33,566	23,700
» thereof sale-and-leaseback	0	12

Operating leases – ZEISS as the lessor
The Group has entered into lease agreements mainly for buildings and technical equipment with future minimum lease payments receivable from non-cancelable operating leases with the following terms:

	2017/18	2016/17
Term to maturity	€ k	€ k
Less than 1 year	12,327	11,809
Between 1 and 5 years	9,151	18,242
More than 5 years	0	18

Finance leases – ZEISS as the lessee
The ZEISS Group has entered into finance leases for various fixed assets, mainly buildings.

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

	2017/18	2016/17
	€ k	€ k
Land and buildings	4,978	3,196
» thereof sale-and-leaseback	4,919	2,131
Technical equipment and machinery	72	140
» thereof sale-and-leaseback	0	0
Other equipment and machinery	599	698
» 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*. In the fiscal year, the term of the lease was renewed until 2021. The land, buildings and leasehold improvements with a carrying amount of €4,919k (prior year: €2,131k) continue to be carried and depreciated by the lessee.

Finance lease liabilities are due as follows:

				30 SEP 18
		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	12,673	4,508	8,165	0
» thereof sale-and-leaseback	11,989	4,180	7,809	0
Interest portion	1,216	702	514	0
» thereof sale-and-leaseback	1,191	684	507	0
Present value of future minimum lease payments	**11,457**	**3,806**	**7,651**	**0**
» thereof sale-and-leaseback	10,798	3,496	7,302	0

				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
Present value of future minimum lease payments	**6,863**	**3,157**	**3,706**	**0**
» thereof sale-and-leaseback	6,050	2,848	3,202	0

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

Finance leases – ZEISS as the lessor

Technical equipment is leased out under finance lease agreements. The finance lease receivables total €16,358k as of the reporting date (prior year: €11,807k).

				30 SEP 18
		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	17,840	6,080	11,148	612
Unearned finance income	1,482	681	762	39
Present value	**16,358**	**5,399**	**10,386**	**573**

				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
Present value	**11,807**	**3,469**	**7,671**	**667**

28 Government grants

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

	2017/18	2016/17
	€ k	€ k
Research and development grants	10,434	9,451
Grants related to assets	6,137	3,363
Other grants related to expenses	526	933
	17,097	**13,747**

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 (Carl-Zeiss-Stiftung), 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 18	30 SEP 17
	€ k	€ k
Receivables	37,885	33,497
Liabilities	19,089	69,135

These receivables and liabilities mainly stem from trade and cash management. The liabilities as of 30 September 2017 contain several loans totaling €52,500k granted by the Carl Zeiss Foundation (Carl-Zeiss-Stiftung) to Carl Zeiss AG at arm's length conditions, of which €47,500k was repaid in fiscal year 2017/18. The remaining amount of €5,000k is presented as a loan under financial liabilities in the consolidated statement of financial position.

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:

	2017/18	2016/17
	€ k	€ k
Goods and services supplied	30,018	27,716
Goods and services received	40,199	35,765

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 the 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) in the Corporate Governance Section.

31 Audit fees

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

	2017/18	2016/17
	€ k	€ k
Audit services	1,457	1,445
Other attestation services	142	95
Tax advisory services	50	199
Other services	76	184

32 Subsequent events

On 22 October 2018, Carl Zeiss Meditec Inc., Dublin, California (USA), signed an agreement to acquire 100% of the shares in IanTECH, Inc., Reno, Nevada (USA) ("IanTECH").

IanTECH specializes in technical solutions for microinvasive cataract surgery. The acquisition will strengthen ZEISS's technological position in cataract surgery.

At present, the provisional purchase price comprises a fixed component (including an escrow amount) of €95m and performance-based components totaling no more than €229m. The performance-based components reward the achievement of defined targets from 2020 onwards. If all the targets are met, a maximum amount of €229m will be payable for these components. If there are delays or targets are not met, the amount payable is reduced in increments down to a minimum of zero.

Since the timing of the acquisition coincides with the publication of the consolidated financial statements, no information on the assets and liabilities assumed or the expected goodwill is disclosed pursuant to IFRS 3.B66.

There were no other 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 €10,609k for fiscal year 2017/18 (prior year: €10,945k). Of the total remuneration, €250k (prior year: €150k) is attributable to long-term benefits and €1,900k (prior year: €1,399k) to service cost for pension obligations. Current fixed and variable remuneration comes to €8,459k (prior year: €9,396k). The members of the Executive Board did not receive 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 dependants amounted to €2,449k for fiscal year 2017/18 (prior year: €3,205k). Provisions totaling €48,665k (prior year: €45,064k) were recognized for the benefit obligations to former members of the Executive Board or their surviving dependants.

The total remuneration of the members of the Supervisory Board of Carl Zeiss AG for their activities came to €1,262k in fiscal year 2017/18 (prior year: €1,287k).

Oberkochen, 3 December 2018

The Executive Board of Carl Zeiss AG

Prof. Dr. Michael Kaschke

Dr. Karl Lamprecht

Dr. Matthias Metz

Dr. Ludwin Monz

Dr. Christian Müller

Dr. Jochen Peter

List of Shareholdings of the Group

in accordance with Sec. 315e (1) in conjunction with Sec. 313 (2) German Commercial Code (HGB) 30 September 2018

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB %	Beneficial share in capital %
1. Fully consolidated subsidiaries				
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 Grundstücks GmbH & Co. KG [1]	100.0	100.0
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	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	Düsseldorf	OPTEC GmbH	51.0	100.0[3]
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	Tonsley	Carl Zeiss Vision Australia Group Pty. Ltd.	100.0	100.0
Australia	Tonsley	Carl Zeiss Vision Australia Holdings Ltd.	100.0	100.0
Australia	Tonsley	Carl Zeiss Vision Australia Pty. Ltd.	100.0	100.0
Australia	Tonsley	Sola Optical Partners (Limited Partnership)	100.0	100.0
Belgium	Zaventem	Carl Zeiss 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
			%	%
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.	100.0	100.0
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 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 Fong, 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	Cassano Magnago (VA)	Bosello High Technology S.r.l.	70.0	100.0[3]
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 Vision Japan 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
			%	%
1. Fully consolidated subsidiaries				
Canada	Toronto	Carl Zeiss Canada Ltd.	100.0	100.0
Canada	Toronto	Carl Zeiss Vision Canada Inc.	100.0	100.0
Kazakhstan	Almaty District	TOO Optec	100.0	100.0[3]
Colombia	Bogotá 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
Russia	Moscow	OOO Optec	100.0	100.0[3]
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
Taiwan	Hsinchu City	Carl Zeiss Co., Ltd.	100.0	100.0
Thailand	Bangkok	Carl Zeiss Co. Ltd.	49.0[2]	49.0[2]
Czech Republic	Prague	Carl Zeiss spol. s r.o.	100.0	100.0
Turkey	Ankara	Carl Zeiss Meditec Medikal Cözümler Tic. ve San. A.S	100.0	59.1
Ukraine	Kiev	TOV Optec	100.0	100.0[3]

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB	Beneficial share in capital
			%	%
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	Thornwood	Carl Zeiss Inc.	100.0	100.0
USA	Minneapolis	Carl Zeiss Industrial Metrology, LLC	100.0	100.0
USA	Temple	Carl Zeiss Meditec Digital Innovations, LLC	100.0	59.1
USA	Dublin	Carl Zeiss Meditec, Inc.	100.0	59.1
USA	Ontario	Carl Zeiss Meditec Production, LLC	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
Belarus	Minsk	Optec Limited	100.0	100.0[3]

2. Non-consolidated subsidiaries

Germany	Cologne	Carl Zeiss 3D Metrology Services GmbH Cologne	100.0	100.0
Germany	Garching near Munich	Carl Zeiss 3D Metrology Services GmbH Munich	100.0	100.0
Germany	Peine	Carl Zeiss 3D Metrology Services GmbH Peine	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	Ulm	Carl Zeiss MES Solutions 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	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
Croatia	Zagreb	Carl Zeiss d.o.o.	100.0	100.0
Philippines	Taguig	Carl Zeiss Philippines Pte. Ltd.	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
Romania	Timisoara	GUARDUS S.R.L.	82.0	82.0

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB	Beneficial share in capital
			%	%
2. Non-consolidated subsidiaries				
Zimbabwe	Harare	Carl Zeiss (Pvt.) Ltd. (Zimbabwe)	100.0	100.0
Slovenia	Ljubljana	Carl Zeiss d.o.o.	100.0	100.0
Taiwan	Taipeh	Achelis Taiwan Co., Ltd.	100.0	100.0
Turkey	Istanbul	Carl Zeiss Teknoloji Cözümleri Ticaret Limited Sirketi	100.0	100.0
Hungary	Budapest	Carl Zeiss Technika Kft.	100.0	100.0
USA	San Diego	American Optical IP Corporation	100.0	100.0
USA	Warsaw, Indiana	Bosello High Technology USA LLC	100.0	100.0[3]
USA	Novi, Michigan	Carl Zeiss Metrology Services Inc.	80.0	80.0
USA	Peabody	Carl Zeiss SMT, Inc.	100.0	75.1
Belarus	Minsk	JV 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	Aalen	tooz technologies GmbH	100.0	50.0
Germany	Holm-Seppensen	X-Ray Solutions GmbH	49.0	49.0[3]
Denmark	Nørresundby	3D-CT A/S	49.0	49.0
Italy	Samarate (VA)	S.E.A.I. S.r.l.	25.0	25.0[3]
USA	Dover	tooz technologies Inc.	50.0	50.0

[1] In accordance with Sec. 264 (3) HGB or Sec. 264b HGB, these entities are exempted from the duty to publish their financial statements
[2] Majority of the voting rights
[3] Due to reciprocal put and call options

Independent auditor's report

We issued the following auditor's report on the consolidated financial statements and the group management report:

"Independent auditor's report

To Carl Zeiss AG

Opinions

We have audited the consolidated financial statements of Carl Zeiss AG, Oberkochen (Germany), and its subsidiaries (the Group), which comprise the consolidated income statement, and the consolidated statement of comprehensive income, consolidated statement of financial position, consolidated statement of changes in equity and consolidated statement of cash flows for the fiscal year from 1 October 2017 to 30 September 2018, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of Carl Zeiss AG for the fiscal year from 1 October 2017 to 30 September 2018.

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

» the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (1) German Commercial Code (HGB) and, in compliance with these requirements, give a true and fair view of the net assets and financial position of the Group as of 30 September 2018, and of its results of operations for the fiscal year from 1 October 2017 to 30 September 2018, and

» the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

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

Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 German Commercial Code (HGB) and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the Group entities in accordance with the requirements of German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Other information
The Supervisory Board is responsible for the Report of the Supervisory Board. In all other respects, the executive directors are responsible for the other information. The other information comprises the following components designated for the annual report, of which we obtained a version before issuing our auditor's report: Financial Highlights, Foreword from the Executive Board, Expert Dialog, Fiscal Year Highlights, Represented Worldwide, Future-Shaping Segments, Responsible Behavior, Ownership Structure, Report of the Supervisory Board, Supervisory Board of Carl Zeiss AG and Corporate Governance.

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

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information
» is materially inconsistent with the consolidated financial statements, with the combined group management report or our knowledge obtained in the audit, or
» otherwise appears to be materially misstated.

Responsibilities of the executive directors and the Supervisory Board for the consolidated financial statements and the group management report
The executive directors are responsible for the preparation of consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German law pursuant to Sec. 315e (1) German Commercial Code (HGB), for the preparation of consolidated financial statements that give a true and fair view of the net assets, financial position and results of operations of the Group in accordance with these requirements. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

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

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

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

Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report

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

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sec. 317 German Commercial Code (HGB) and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

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

» Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.
» Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with [German] law, and the view of the Group's position it provides.
» Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

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

Stuttgart, 12 December 2018

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Dr. Jungblut	Prof. Dr. Schmidt
Wirtschaftsprüfer	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]

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Further information at:
www.zeiss.com/annualreport

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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