175 years

ZEISS

Seeing beyond

Challenge the limits of imagination

Annual Report 2020/21
ZEISS Group

Key Figures
(IFRS)

	2020/21		2019/20		2018/19	
	€ m	%	€ m	%	€ m	%
Revenue	**7,529**	**100**	6,297	100	6,428	100
» Germany	619	8	598	9	663	10
» Other countries	6,910	92	5,699	91	5,765	90
Research and development expenses	**943**	**13**	812	13	705	11
EBIT	**1,479**	**20**	922	15	1,063	17
Consolidated profit	**1,047**	**14**	616	10	748	12
Cash flows from operating activities	**1,457**		783		770	
Cash flows from investing activities[1]	**-525**		-338		-635	
Cash flows from financing activities	**-149**		-313		-234	

	30 Sep 2021		30 Sep 2020		30 Sep 2019	
	€ m	%	€ m	%	€ m	%
Total assets[1]	**10,656**	**100**	9,172	100	9,142	100
Property, plant and equipment	**2,069**	**19**	1,623	18	1,466	16
» Capital expenditures	756		484		437	
» Depreciation	263		256		234	
Inventories	**1,976**	**19**	1,736	19	1,622	18
Equity	**5,494**	**52**	4,287	47	3,990	44
Net liquidity[1]	**2,120**		1,532		1,548	

	30 Sep 2021	30 Sep 2020	30 Sep 2019
Employees	**35,375**	32,201	31,260
» Germany	14,848	13,692	13,310
» Other countries	20,527	18,509	17,950

[1] The prior year's values have been changed. For an explanation, please refer to Notes 2 and 6 of the Notes to the Consolidated Financial Statements.

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

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Executive Board
of Carl Zeiss AG

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

Dr. Markus Weber
Head of the Semiconductor Manufacturing Technology segment

Dr. Karl Lamprecht
President and CEO

Dr. Christian Müller
CFO

Dr. Ludwin Monz
Head of the
Medical Technology segment

Dr. Matthias Metz
Head of the
Consumer Markets segment

Foreword by the Executive Board

Ladies and Gentlemen, dear Readers,

In its 175-year history, the ZEISS Group has achieved yet another record: the ZEISS Group's EBIT has reached an all-time high at well over **1 billion euros**. For the first time in our lengthy history, our revenue has risen to upwards of **7 billion euros**. Meanwhile, our new ZEISS Agenda, #agenda25, is our roadmap for the next **5 years** as we pursue a clear growth strategy. We could not have asked for better and more well-deserved figures as we celebrate our **175th** anniversary.

Dr. Karl Lamprecht

And I'm especially delighted that we've been able to achieve such a great result in our anniversary year. We can now proudly look back on a very successful fiscal year 2020/21. For this reason and on behalf of the entire ZEISS Executive Board team, I would like to express my sincere gratitude to all of our business partners and especially to our customers for our successful collaborations. We want to see you succeed. Because you are the ones who make us successful. And thank you very much to our more than 35,000 employees in particular. We could never have done this without you. Your unwavering dedication and flexibility, particularly during the COVID-19 pandemic, are the foundations for our success.

This year's results in detail
All four of the ZEISS segments have grown over the past fiscal year – despite some tough challenges prompted by the pandemic and the associated economic developments.

The Semiconductor Manufacturing Technology segment that has enabled an innovation leap in the industry through its EUV technology is working at full speed, with orders simply streaming in. ZEISS is thus benefitting from digitalization, which is quickly becoming ubiquitous in many areas, and supplying them with tomorrow's technologies. The ZEISS segments Industrial Quality & Research, Medical Technology and Consumer Markets are also reaping the benefits of increased demand, buoyed by the positive mood created by key customers. The segments actually boosted their revenue to pre-crisis levels. So, not only have we successfully navigated through the pandemic, we've actually emerged from it stronger than ever. Another key growth driver has been our business in China, which has developed extremely well once again.

Powering innovation for the future
In 1846, young mechanic Carl Zeiss opened his workshop for precision mechanics and optics in Jena, thus laying the foundation for what would become today's global technology player ZEISS. The company's close links to science – notably, by virtue of the collaboration with physicist and mathematician Ernst Abbe – still form part of our DNA to this day. And our many technological milestones attest to our repeated – and successful – attempts to challenge the limits of what is physically and technically feasible. This unique innovative spirit has imbued the company with real staying power, allowing us to help our customers be successful.

The most recent example of this is when ZEISS was honored with the Deutscher Zukunftspreis (German Future Prize) for developing EUV lithography. This technology makes our modern lifestyles possible and is truly unique at ZEISS. Another example of this is the ZEISS Medical Ecosystem. In association with ZEISS' integrated portfolio of diagnostic and treatment systems and the support of a cloud-based digital platform, the future-oriented concept behind the ZEISS Medical Ecosystem creates added value that goes beyond the systems themselves to offer an approach to medicine that is extremely comprehensive, fully networked and integrated. All-new products like ZEISS Smart Glass and the ZEISS Lattice Lightsheet 7 microscope have earned us nominations for innovation awards. And by collaborating with vivo we have developed imaging technology that meets ZEISS' image quality requirements and delivers exceptional, razor-sharp images in the latest smartphones.

As a global tech leader, one success factor has certainly been our focused investment strategy. Our consistently high expenditure on research and development, which once again stands at 13 percent of revenue, represents our investment in the future. These have now reached another all-time high at 943 million euros! At R&D departments across the ZEISS Group, more than 4,500 employees are working hard every day to continue expanding our investment power. This is also reflected in our many patents – which totaled just under 11,000 worldwide as of the reporting date.

Our employees are the foundation of our company. Education and training don't just play a key role when it comes to ensuring our competitiveness. As a foundation-owned company, we also bear a special responsibility to help our employees achieve further qualifications. We are also continuing to expand the comprehensive offering on our digital learning platform ZEISS CurioZ. Meanwhile, innovative formats and offerings aim to promote the expansion of expertise, knowledge and skills in a targeted manner. And as of this year, the training modules and learning units are joined by a knowledge platform – a database for literature summaries. The annual ZEISS Women Award honors exceptional female IT students and offers a platform for encouraging women to pursue a career in the digital industry. As of the reporting date (30 September 2021) over 470 students and apprentices were studying at ZEISS in Germany. The number of apprentices has thus remained consistently high.

Sustainability
As a foundation-owned company, social responsibility is part of our DNA. Our mission is to anchor sustainability across the company. As a result, over the past year we have incorporated the topic of sustainability into our strategic agenda. Five different working groups are focusing on topics like green infrastructure, green business models and social engagement. The working groups' focus areas are making collaboration across organizational boundaries essential. This allows them to leverage the company's swarm intelligence to achieve results with far-reaching and lasting benefits.

Another ambitious goal is to achieve CO_2 neutrality in our own activities worldwide by 2025. This supplements our existing goal of switching to green power at our sites worldwide by 2022. ZEISS is therefore making a contribution to the global target set in the Paris Agreement of limiting global warming to below 2°C.

If we achieve our goal of embedding sustainability throughout the company, rendering it measurable and developing it further, then we'll be able to help create a better world.

Shaping the future
As a modern and innovative foundation-owned company with a history spanning 175 years, we've already overcome plenty of hurdles, achieved innovative milestones and always looked ahead. The new #agenda25 is the ZEISS Group's strategic roadmap and has helped us define the right strategy in the pursuit of further growth. Its three Focus Fields help to guide us in our work, as we: shape markets, build networks and create impact. We are very optimistic about the future.

Stay healthy.

Yours, Karl Lamprecht

Dr. Karl Lamprecht
President and CEO of Carl Zeiss AG

Solutions to Shape the Future

Segments of the ZEISS Group

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 in optics, precision mechanics and optoelectronics. For 175 years, the company has been shaping technological progress, advancing the world of optics with solutions from its four segments and meeting its customers' needs.

Semiconductor Manufacturing Technology

- **Semiconductor Manufacturing Optics**
- **Semiconductor Mask Solutions**
- **Process Control Solutions**

Industrial Quality & Research

- **Industrial Quality Solutions**
- **Research Microscopy Solutions**

Medical Technology

- **Ophthalmic Devices**
- **Microsurgery**

Consumer Markets

- **Vision Care**
- **Consumer Products**

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

Industrial Quality & Research
ZEISS ensures quality standards and enables scientific research wherever maximum precision is indispensable: with coordinate measuring machines, microscope systems and smart software for research and material inspection. ZEISS plays its part by ensuring that even the tiniest structures and processes become visible.

Medical Technology

With its products and solutions for ophthalmology, neurosurgery, ENT surgery, spine surgery, dentistry and oncology, 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. ZEISS movie and camera lenses, binoculars, spotting scopes and riflescopes offer outstanding optical quality for users with exacting requirements. In every moment that counts.

At Home
Across the Globe

A lot has happened since ZEISS opened its first branch outside Germany in London in 1893. Today, the ZEISS Group is represented in almost 50 countries. Over 35,000 employees work at more than 30 production sites, around 60 sales and service locations, and 27 research and development facilities worldwide. The company is headquartered in Oberkochen (southern Germany).

Around
100
sites
worldwide

13
percent of
revenues
invested in
research and
development

Over
4,500
employees in
research and development

Around
10,900
patents
worldwide

Challenge the Limits of Imagination

Seeing beyond for 175 years

The ZEISS Group's success story began 175 years ago, in a small workshop. On 17 November 1846, young mechanic Carl Zeiss opened his workshop for precision mechanics and optics in Jena, thus laying the foundation for what would become today's global technology player ZEISS. Zeiss went on to join forces with physicist and mathematician Ernst Abbe 20 years later, which proved to be the first step toward the workshop's transformation into a fully fledged company. This collaboration also led to the company's close links to science forming a part of its DNA.

Since the 19th century, the trends of the day have always shaped ZEISS' innovations and its business. The perfecting of microscopes led to the evolution of cell theory, one of the pillars of microbiology and thus of modern medicine. Mass production during the age of industrialization would never have been possible without reliable metrology. During the pioneering age of photography at the close of the 19th century, ZEISS developed its renowned Planar lens – and some 70 years later, the ZEISS Biogon 5.6/60 journeyed to the Moon. What's more, the Carl Zeiss Foundation, which was established in 1889, introduced visionary social reforms like paid vacation, pension entitlements and an 8-hour workday, thus considerably shaping social progress in Germany.

Industrialization, photography, modern medicine, and social progress were all megatrends of their time. And megatrends are still shaping ZEISS' customers' worlds to this day. They are: digitalization, globalization, demographics, healthcare and climate change. These are tremendous challenges and ZEISS believes it has a responsibility to develop the best technology that will take us into the future.

175
years

When ZEISS was founded 175 years ago, it was curiosity, passion, and precision that inspired us and our customers. New perspectives have since shaped our view of the world. And we have turned great challenges into great opportunities. Even though the world has changed significantly over the past 175 years, one thing will always remain the same: Together, we challenge the limits of imagination.

Industrialization
Reliable metrology lays the foundation for the mass production of goods. Many ZEISS inspection systems are so advanced that they have continued to be built without any modifications for decades. This invisible precision remains a cornerstone of industrial development and technological progress to this day.

1846
At age 30, Carl Zeiss opens a workshop for precision mechanics and optics in Jena. Thanks to his connections to top natural scientists from the prestigious University of Jena, he's able to quickly put together a customer base.

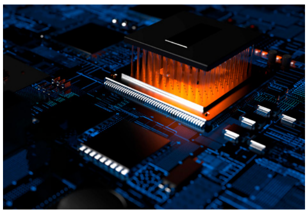
1847
Carl Zeiss builds his first microscope. The first instruments come with 15 to 125x magnification.

1857
The first compound microscope establishes Carl Zeiss' reputation as a reliable and precise craftsman.

175 Years of Innovation

36 Nobel Prize winners
achieved their breakthroughs using ZEISS solutions. They included Robert Koch (1905, Physiology/Medicine), Eric A. Cornell (1961, Physics), Eric Betzig, Stefan W. Hell and William E. Moerner (2014, Chemistry).

80 percent of microchips worldwide
are made with ASML lithography systems with ZEISS EUV technology. ZEISS was honored with the German Future Prize for this technology, which it uses to make microchips ever smaller, more high-performance and more efficient.



3 Technical Oscars
were conferred to ZEISS lenses that are used to achieve excellent image quality, reliability and outstanding results. In fact, numerous Oscar-winning movies were filmed using ZEISS lenses.

300,000 surgical procedures per year
are performed using the ZEISS KINEVO 900. It combines robotics, digital visualization and modern assistance solutions and steps up the efficiency and efficacy of surgical procedures.

Physics and Astronomy
During the 19th century, our knowledge of physics principles, astronomical observation methods and light advanced – and ZEISS produced the instruments to match. From the first telescope through the development of spectroscopy and the construction of planetariums, or the industrialization of EUV lithography systems, ZEISS supplies the technologies used to achieve many scientific milestones.

1866
Ernst Abbe joins the company. The physicist previously worked as Director of the Jena Planetarium. Together, he and Carl Zeiss place microscope production on a scientific and reproducible basis, thus ending the age of empirical trial and error with a variety of lenses.

1872
Ernst Abbe publishes his eponymous formula to limit the optical resolution in a microscope that is still used in modern-day microscopy.

1883
While German emperor Otto von Bismarck was drawing up social legislation, ZEISS was paving the way by offering its employees health and accident insurance.

ZEISS Beyond Talks

For 175 years, ZEISS has been developing innovations that answer the question "How can we push the limits of our imagination?" In order to celebrate this vision, ZEISS has engaged in discussions with pioneers and leading figures from all over the world. They focus on the megatrends of our time and the associated challenges. As part of the ZEISS Beyond Talks, they share insights into their work, as well as visions, passions and topics that will have a major impact on the future.

More information:
www.zeiss.com/175

"Our electron microscopes offer million-fold magnification and are capable of making a human hair look like it's 60 meters wide – that's as wide as a football field!"

Prof. Joachim Mayer
Materials scientist, RWTH Aachen University

Materials are technological pioneers. Those who want to produce innovative cars, planes and renewable energy systems need new materials with better properties than those currently in use.

Part of our job as materials scientists involves considering the entire materials life cycle; how they age during use and develop defects that could result in their ultimate failure.

This means we have to look at the materials' microstructure. We need to characterize and develop a material's inner properties. That's why we use microscopes capable of magnifying materials up to one million times.

This magnification actually enables us to see individual atoms. This was not possible until the invention of the electron microscope some 20 years ago.

Photo and Film
The 19th century is the pioneering age of photography, and ZEISS goes down in history with its developments in film and photography. ZEISS lenses have captured countless historic images, such as those from the first Moon landing. And the lenses' three Oscars make them Hollywood stars in their own right.

1889
Following Carl Zeiss' death, Ernst Abbe establishes the Carl Zeiss Foundation, determining how the company will be managed and how its profits will be utilized.

1896
ZEISS receives first patent for its Planar lens.

1905
Robert Koch receives the Nobel Prize. He discovers the pathogen that causes tuberculosis while using a ZEISS microscope.

"We need different rules, different ways of sourcing our food, in order to utilize materials and energy."

Prof. Antje Boetius
Microbiologist and researcher

Most people would tell you they love the sea. And so they're often confused when they learn that we're all having an impact on the oceans already – all over the world in fact. In addition to CO_2, our oceans are being affected in other, less-obvious ways.

For example, in the number of disposable plastic containers we use every day. This has a tremendous impact on the oceans. And then there are the nano-plastics that find their way into the oceans via precipitation. Or into agriculture. While agriculture does happen on land, the fertilizers that we use on the fields ultimately end up in the oceans, carried there by the rain and rivers. And then there's our food. A larger proportion of the fish we eat is sourced from aquaculture than from the wild. Aquaculture, if it's not done in a very sustainable way, destructs, for example, the mangroves or sea grasses or fjords.

So, my hope is that this combination of knowledge, technical and social solutions prompts us all to take action for a better tomorrow.

"There are no limits to our imagination, and technology is a fantastic tool for conducting research into the impossible."

Sherry Hormann
German-American filmmaker

I think every technology that changes things forces you to be open and make the best of it. The digital approach has revolutionized the way we capture movies. For instance, you no longer need a break between takes. You just keep rolling, with much less effort than you needed before, to get a scene just right with the actors.

These days we have streaming, we have YouTube and new channels are emerging all the time. It's amazing to see such diversity and know that we have technologies at our disposal that allow us to make aesthetic changes or pursue other avenues.

The key topics that will be discussed in future movies are empathy and openness. If you ask someone a question, then make sure you listen to the answer. Don't launch yourself into the spotlight. Instead, let everyone have their say.

Modern Medicine
Microscopes are perfected and enable the evolution of cell theory, one of the underlying findings in biology and a cornerstone of microbiology. Robert Koch, the father of modern bacteriology, received the Nobel Prize for his work, for which he used ZEISS microscopes. To this day, ZEISS technologies are used by Nobel laureates for Medicine time and again.

1912
ZEISS releases its first slit lamp, thus establishing medical technology at ZEISS.

1923
ZEISS opens world's first projection planetarium at Deutsches Museum in Munich.

1969
Photos of the Apollo 11 are shown around the world. ZEISS lenses are used during the first Moon landing.

"We've opened the door a ways to new opportunities in the field of lasers. There's a vast space behind that door that we've yet to explore."

Dr. Peter Leibinger
CFO of the TRUMPF Group

Society sometimes holds technologies responsible for problems we face. But, if we continue in the same vein as we have been, with the freedom we so value and the methods we're applying today, then we will certainly destroy our planet. The only solution to this dilemma is technology.

What's fascinating about lasers is that one can only find them here on Earth. Similar phenomena in physics, such as radio waves, can be found throughout the universe. But lasers were invented by humans. We deploy the technologies in all divisions, from modern telecommunications through extreme ultraviolet lithography (EUV) in medicine.

And our customers are constantly helping us come up with new ideas. For instance, we never would have come up with the idea for EUV lithography on our own. The idea came about when our customers asked us to solve a specific problem. It was a similar story with the laser, which turned out to be the perfect tool for producing cutting-edge car batteries. For me as a business-minded person, the laser is a wonderful business-developing machine.

"It's essential to strike the right balance between art and science in the eyeglass industry."

Jeffery Yau
Founder and CEO of PUYI OPTICAL

Every one of our eyeglasses has a story to tell about the manual processing and brand heritage that went into it. At the same time, much progressive research and experiments have flowed into the functions of the basic design and the embedded lenses. The congruency between these two aspects – manual processing and science – is very important in our industry.

Traditionally, eyeglasses have been seen as a way of combatting refractive errors like myopia and age-related degeneration. However, thanks to the technology they can now achieve a lot more, e.g. protecting our eyes against harmful light or further degeneration.

What surprised me is the extent to which technology has impacted eyeglass styles. People can now design their very own frames. I think this will continue to be popular for a while and we will witness an incredible amount of completely new innovations.

Digitalization
Since the 1990s, networking has come on in leaps and bounds, giving rise to considerable change in companies' political, social, cultural and economic structures. From the internet of things and big data to artificial intelligence ZEISS, with its miniaturization technologies, is one of the companies responsible for shaping this megatrend.

1989/90

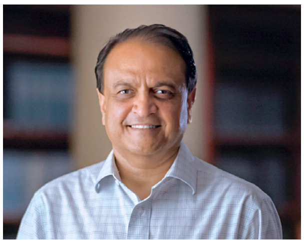
After the fall of the Berlin Wall, the ZEISS companies in Oberkochen (West Germany) and in Jena (East Germany) grow into one successful enterprise. For more than 40 years, the two companies developed independently.

1995

ZEISS opens its first site in the People's Republic of China. Two years later it opens a site in India, which now houses key ZEISS technology and innovation centers.

2013

Oscar-winning movies like the James Bond blockbuster *Skyfall, Lord of the Rings* and *Barry Lyndon* were all filmed with ZEISS lenses.



"One of the biggest challenges we are going to face is the ability to synthesize large amounts of data."

Nipam Patel, PhD
Developmental biologist and Director of the Marine Biological Laboratory at the University of Chicago

Humans have developed the ability to evolve in ways outside of what we think of as classic biological evolution. We're already able to examine certain genes, signal paths and networks. But in order to understand the condition of an organism we must process a huge amount of data on all the different genes and the environment in which the organism exists. In order to model, manipulate and experiment on all this, we need artificial intelligence. This will give us the data in a form that we can comprehend.

A good example that illustrates this challenge is the sequencing of the human genome. We put a lot of resources into that project and now we've accomplished what we set out to do. We've learned a lot, but in so doing we've also learned that we know very little. Now our task is to effectively utilize the human genome. We have the data, but how do we read it? This is proving to be incredibly complicated, and each step we take makes us realize that there are often more questions than answers.

"I'm truly inspired by people's capacity for imagination and the practical applications that are emerging in agriculture, e-mobility and many other areas."

Sebastian Copeland
Photographer, adventurer and environmentalist

The ice caps are shrinking so fast that we haven't been able to walk to the North Pole since 2014. To overcome this tremendous challenge, three groups of people need to take action: our elected representatives, the general public and industrial stakeholders. And what can we do as individuals? We can vote for those people who will help bring about change and make smart purchases to help companies promote regeneration and sustainability.

Climate change has resulted in us losing one percent of our inhabitable land in just 30 years. By 2070 this figure will rise to 19 percent. It's incredibly exciting to watch people develop solutions that will help retain land and allow it to absorb more moisture.

This way, we can showcase our creativity, our ability to intellectually process and synthesize data and our capacity for empathy. And if we put all these things together to achieve our common sustainability goal – or regeneration as I like to call it – then I believe that's reason enough to hope and inspire.

2020

ZEISS partners with Trumpf and the Fraunhofer Institute to make a major contribution to the development of industrial series maturity of EUV technology. This unrivalled key technology can be used to produce significantly higher-performance and more energy-efficient and cost-effective microchips than ever before. This earned it the Deutscher Zukunftspreis (German Future Prize).

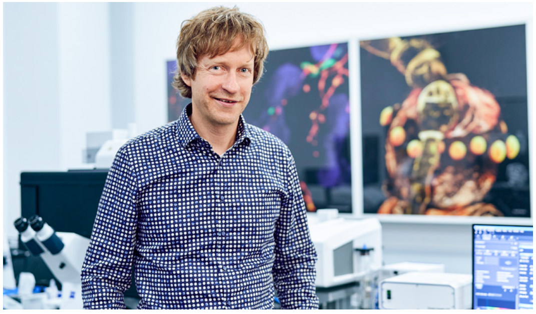
Today

ZEISS recently invested in the construction of the Innovation Hub in Karlsruhe, established the Innovation Hub in Dresden and opened the new ZEISS Innovation Center in Dublin (California, USA).
In a few years, ZEISS will complete its new high-tech site in Jena. In the city where ZEISS was first established, the company is merging local units and paying tribute to its founder Carl Zeiss more than ever before: This is where the limits of the physically and technically possible are being challenged.

Highlights from Fiscal Year

Shaping the future

Thanks to its long-term investment strategy, balanced portfolio, international setup and globally oriented value chains, the ZEISS Group can look forward to a bright future. In the previous fiscal year, targeted investments helped ZEISS shape the future. Here are just some of the highlights from fiscal year 2020/21.



ZEISS Innovation Hub in Dresden Opens Its Doors
ZEISS and the Dresden University of Technology (TU Dresden) are using the ZEISS Innovation Hub to further expand their strategic collaboration. The first Hub program focuses on research into organoid models. To work on it, Dr. Kai Wicker and his team have moved on the campus of the Carl Gustav Carus University Hospital – a stone's throw away from top experts in the field.

vivo X60 Pro 5G with ZEISS Imaging System
The vivo X60 Pro 5G features a camera system that was jointly developed by vivo and ZEISS. It allows users to capture outstanding images and videos. The new camera system meets ZEISS' image quality requirements and delivers exceptional, razor-sharp images. The X60 Pro is the first smartphone that is being brought to market as part of the strategic partnership between vivo and ZEISS.

ZEISS Symposium 2021 and ZEISS Research Award
At this year's Symposium "Optics in the Medical World" international experts discussed the role and the potential of optical technologies for medicine and healthcare. The close collaboration between science and industry is a key success factor when it comes to putting medical research into practice. The highlight of the celebration was the presentation of the ZEISS Research Award and the Carl Zeiss Award for Young Researchers.

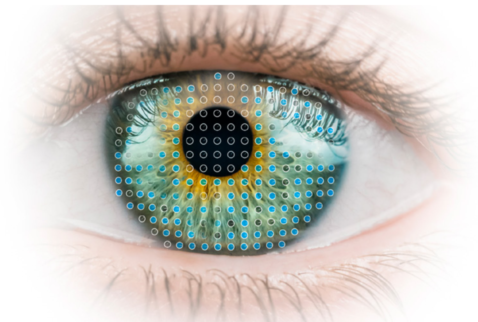

© Jason O'Rear

ZEISS Innovation Center Opens
ZEISS has completed construction of its new R&D, production, sales and customer service site in Dublin (California, USA) in the San Francisco Bay Area. Hundreds of ZEISS employees and key functions will come together under one roof. The new site in Dublin represents a further milestone in the company's strategy.

Modern Solutions Bring People Together
Augmented reality solutions support cross-divisional services at ZEISS. Teams at customers' sites can use the Microsoft HoloLens and work with specialists from the ZEISS Semiconductor Manufacturing Technology segment located thousands of kilometers away to analyze problems and discuss possible solutions – without even needing to set foot on a plane.

5 Million Donated to Deutsches Museum
To mark its 175th anniversary, ZEISS has donated five million euros to the future initiative for modernizing the Deutsches Museum in Munich. The company loaned the museum the ZEISS microscope "Stand VIIb" from 1879. It will form part of the new optics treasure chamber at the Deutsches Museum that is currently being built as part of the modernization.

ZEISS Lattice Lightsheet 7 Visualizes Subcellular Dynamics over Long Periods of Time
Thanks to the combination of minimized light impact and high resolution, researchers use this lattice light sheet microscope to observe subcellular dynamics over several hours or days. This opens up new possibilities, in particular for cancer research or understanding the early stages of life.



ZEISS Medical Ecosystem – a Concept Built for the Future
At ZEISS Innovation Week, ZEISS Medical Technology unveiled the industry's first-ever integrated solutions that offer customers real added value within the ZEISS Medical Ecosystem. This is a concept that networks systems, data and applications, thus supporting clinical efficiency and high performance.

More information:
www.zeiss.com/newsroom

Sustainable Development
Corporate responsibility

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

Fields of Action for Sustainable Development

Products and Value Added
Product solutions by ZEISS contribute to medical advances in eye care, neurosurgery and ENT surgery, and support doctors as they improve their patients' quality of life. ZEISS eyeglass lenses improve the eyesight of people all around the world. And intelligent measuring systems from ZEISS help increase efficiency at a host of companies. But product responsibility means more than simply delivering innovative, effective, and safe products. For ZEISS, it also includes responsible value chain creation – from raw materials to product sales.

Environment
Effective environmental protection and the responsible use of resources are important concerns for the ZEISS Group. ZEISS continues to work on reducing its consumption and emissions and has set specific reduction targets to do so. In order to achieve this, ZEISS pays attention to the efficient use of materials and energy from product development through to customer application. When selecting and using raw materials, technologies and production processes, ZEISS considers their environmental compatibility. Wherever possible, potentially hazardous materials are replaced with less harmful substances.

Employees
Precision, innovation, and unparalleled quality can only be achieved with motivated and qualified employees. ZEISS continually invests in the promotion and professional development of its employees and positions itself as an attractive employer in the battle to attract talented individuals. The company benefits from its reputation as a global and innovative foundation-owned company with a strong focus on values that have been enshrined in the corporate culture. This is a distinct competitive advantage, especially when it comes to demographic change and a shortage of specialists.

Sustainable Products
The ZEISS Industrial Quality & Research segment is focusing on aspects like eliminating long transportation routes. The company has production facilities across the globe, meaning it is able to manufacture products near its customers' sites. Air freight is often avoided, with seas and rails being preferred. The products are designed to last for decades. Plus, existing systems can often be retrofitted with new technologies.

Climate-Neutral by 2025 – Campaigning for a Better Environment
The goal is to embed sustainability throughout the company, rendering it measurable and developing it further. ZEISS aims to operate in a carbon-neutral way in its own activities worldwide by 2025 (Scope 1 and 2 emissions). By 2022 its main sites across the globe are set to switch to green power. ZEISS is thus making a contribution to achieving the target set in the Paris Agreement of liming global warming to well below 2°C.

35,000 Employees are the Biggest Lever
"When sustainability is embraced by every single employee in his/her daily work and it is no longer an ancillary issue that we have to reflect upon, we have done a good job," says Dr. Nicole Ziegler. The Head of Sustainability and her team are on a mission to anchor sustainability across the company. ZEISS Sustainability Week was a real milestone on the company's journey. ZEISS called on its employees around the world to get involved.

Social and Societal Engagement
As part of its responsibilities as a foundation-owned company, ZEISS promotes scientific and technological progress and campaigns for better living conditions worldwide. Through the ZEISS Promotion Fund, the company supports social projects, initiatives and facilities at its sites in Germany. By joining forces with German and international aid organizations such as the Christoffel Mission for the Blind (CBM) and Mercy Ships, ZEISS helps to improve medical care for people in all regions of the world. With the goal of bringing young people closer to science and research, ZEISS has been sponsoring Jugend forscht, Germany's oldest and best-known competition for young researchers, for more than 20 years.

Integrity and Compliance
Business activities that are compatible with statutory regulations and internal rules are an integral part of the open and respectful corporate culture at ZEISS. For this reason, legality, fair competition and the equitable treatment of business partners and employees are indispensable elements of successful business operations. A compliance management system ensures that any errors are identified and corrected.

Social Engagement for Healthy Vision

Two to three billion people across the globe have no access to eye care. Since 2015, ZEISS has been committed to improving this situation in the world's most severely affected regions – including some parts of China, India and Nepal. In India, ZEISS is working with the Aloka Vision Programme to supply basic eye care to people in remote rural areas. A variety of partners, simple digital platforms and an optimized supply chain make it possible to perform several thousands of eye exams and supply glasses each month. This collaboration also gave rise to the Jeevan Rekha Express, or Lifeline Express, in India. It's the world's first-ever hospital train that makes stops in remote parts of the country to provide treatment to those in need completely free of charge. Thanks to the Aloka Vision Programme, ZEISS is able to offer regular eye screenings and eyeglasses. In October 2020 alone, more than 3,800 people received eye exams and over 1,000 pairs of glasses were handed out. ZEISS has joined forces with Drishti Eye Care to provide its services in Nepal. Drishti Eye Care is an eye hospital focusing on diagnosing and treating non-refractive visual impairments in children. The aim is to help at least 10,000 children each year. ZEISS also provides the equipment needed to perform the eye screenings.

More information:
www.zeiss.com/sustainability

The separate Non-Financial Report compiled for the ZEISS Group will be published on 15 December 2021. And the Sustainability Report will be published on 29 January 2022.

The Carl Zeiss Foundation

Promoting science

The Carl Zeiss Foundation is the sole shareholder of Carl Zeiss AG. This special ownership structure ensures stability and enables the company to create long-term prospects. The Foundation statutes prohibit the sale of shares, e.g. through an initial public offering. For that reason, the company's shares are not listed on any stock exchange.

Carl Zeiss Foundation
Foundation acting as a shareholder

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

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

- » Safeguarding the future and responsible management of the two Foundation companies
- » Fulfilling its special responsibility toward employees
- » Meeting its responsibility toward society through the commitment of its member companies to non-profit activities in their surrounding regions
- » Promoting science

With this unique corporate model, the Carl Zeiss Foundation and its two member companies made industrial and social history in Germany. Since 2004, the foundation has received dividends of 351 million euros from Carl Zeiss AG in order to achieve its goals. The Foundation uses the dividends generated by Carl Zeiss AG and SCHOTT AG to promote science – particularly the natural and engineering sciences, 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.

More information:
www.carl-zeiss-stiftung.de/english

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 fundamental principles of its corporate policy.

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

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 ZEISS employees and is published on the company's website.

Report of the Supervisory Board

Ladies and Gentlemen,

Despite the ongoing COVID-19 pandemic, ZEISS achieved growth in all its segments in fiscal year 2020/21 and generated record revenues of around 7.5 billion euros. The sustained and rapid advances made in digitalization have allowed the Semiconductor Manufacturing Technology segment to achieve above-average development. Meanwhile, the direct-to-market segments compensated for the losses in revenue suffered as a direct result of COVID-19 in fiscal year 2019/20. ZEISS has thus proven that sizeable investments in digitalization and in research & development pave the way for further growth – despite any economic uncertainty induced by the pandemic. Through considerable investments, we continue to leverage our innovative power, particularly in terms of digitalization. This allows us to develop new business models and attract new customers. New and innovative products have already proven successful.

Prof. Dr. Dieter Kurz

In the past fiscal year the Supervisory Board oversaw and advised the Executive Board in accordance with the duties entrusted to supervisory boards by law, the articles of association and rules of internal procedure. The Executive Board provided the Supervisory Board with written and verbal information about the business situation and development, current profits, current risk factors and risk management, short-term and long-term planning, investments and organizational measures. The Chairman of the Supervisory Board 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 decisions of importance and passed the resolutions required by law, the articles of association and our internal procedures. The decisions of the Supervisory Board were based on the reports and decisions proposed by the Executive Board, which the Supervisory Board subjected to in-depth scrutiny. The Executive Board and Supervisory Board have joined forces to ensure ZEISS continues to develop successfully.

Supervisory Board Meeting Topics

The Supervisory Board held five meetings during fiscal year 2020/21.

The annual budget was set in October 2020.

And the annual accounts were discussed and approved in December 2020.

At the meeting held in May 2021, ZEISS' acquisition strategy was discussed. With this strategy, ZEISS aims to acquire highly innovative solutions, technologies and companies in a targeted manner.

During the July 2021 strategy meeting, the company presented its strategic portfolio to the Supervisory Board, in a way that included the heads of the strategic business units and focused in particular on digitalization and on the respective region being addressed. At the strategy meeting, the Executive Board presented a clear strategic plan that continues the long-term positive development of the individual segments with the support of the management and employees. It also looked at the changes that are predicted to occur in the company's respective markets.

The budget plan for 2021/22 was approved at the final meeting of fiscal year 2020/21 on 30 September 2021.

Changes to the Executive Board
Stability and continuity in the company's management are key concerns of the Supervisory Board. At the last Supervisory Board meeting for fiscal year 2020/21, the Supervisory Board resolved to approve Dr. Ludwin Monz' request to end his term on 31 December 2021. Dr. Monz is the Executive Board member in charge of the ZEISS Medical Technology segment. The Supervisory Board also renewed Dr. Markus Weber's term as member of the Executive Board of Carl Zeiss AG until 31 December 2026 and appointed Dr. Weber as the Executive Board member in charge of the ZEISS Medical Technology segment (effective 1 January 2022). The Supervisory Board also appointed Mr. Andreas Pecher a new member of the Executive Board of Carl Zeiss AG effective 1 January 2022. As of this date, Mr. Pecher will assume responsibility for the ZEISS Semiconductor Manufacturing Technology segment, thus succeeding Dr. Weber.

The Supervisory Board would like to thank Dr. Monz for the excellent work he has done over the years as Executive Board member of Carl Zeiss AG and wishes Dr. Weber and Mr. Pecher all the best going forward.

Work of the Supervisory Board committees
The Audit Committee met three times as scheduled. It evaluated the effectiveness in a risk management context and discussed topics such as compliance, internal auditing, the internal control system, accounting and the key issues of the annual audit as well as the annual and consolidated financial statements. The Chairman's Committee also convened three times. The achievement of targets and Executive Board remuneration were subjected to the regular review. In the Supervisory Board meetings, the Chairmen of the Audit and Chairman's Committees provided regular reports on the work of their committees. The Mediation Committee did not convene during the year under review.

Changes to the Supervisory Board
Roland Hamm bowed out of the Supervisory Board on 1 October 2020. Andrea Sicker served on the Supervisory Board from 2 October 2020 through 30 September 2021. During this time, Ms. Sicker was also a member of the Chairman's Committee. Mr. Kai Bliesener succeeded Ms. Sicker on the Supervisory Board on 1 November 2021. Following a decision made at the Shareholders' Meeting on 1 March 2021, Mr. Gert-Hartwig Lescow was appointed to the Supervisory Board. The Board also appointed him the new Chairman of the Audit Committee (effective 1 January 2022). Dr. Kurz and Dr. Steinebach will be stepping down from the Supervisory Board on 31 December 2021 due to their age, as per the Carl Zeiss AG articles of association. Mr. Gerhard Bösner was elected to the Chairman's Committee on 1 October 2021. Mr. Bösner also stepped down from his position on the Audit Committee on 30 September 2021. Ms. Silke Müller joined the Audit Committee on 1 October 2021.

Audit of the annual and consolidated financial statements
The auditing firm Ernst & Young GmbH, Stuttgart, has audited the consolidated financial statements of Carl Zeiss AG, including the Management Report, for fiscal year 2020/21 prepared pursuant to Sec. 315e (3) German Commercial Code (HGB) in accordance with International Financial Reporting Standards (IFRS) and issued an unqualified auditor's report in each case. Auditing firm Ernst & Young GmbH, 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 examined the documents and discussed the annual and consolidated financial statements at the meeting of the Audit Committee on 13 December 2021 and at the Supervisory Board meeting held on 14 December 2021. The independent auditor attended both meetings, presented the major results of the audit, provided supplementary information and answered questions. At the plenary assembly, the Chairman of the Audit Committee reported on 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 2021.

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 2020 to 30 September 2021. 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.

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 Audit Committee was presented with a separately published Non-Financial Annual Report of Carl Zeiss AG. This report was submitted for a voluntary audit by the auditing firm PricewaterhouseCoopers GmbH (PwC) in Munich to obtain limited assurance. As per the recommendation of the Audit Committee, the Supervisory Board confirms the adherence of the non-financial report for the ZEISS Group to the CSR Guideline Implementation Law (EU Directive 2014/95/EU) and approves it.

We will also be paying out a dividend this year to our sole shareholder, the Carl Zeiss Foundation.

On behalf of the Supervisory Board, I would like to thank the members of the Executive Board and all ZEISS employees for their exceptional dedication and outstanding achievements, which have resulted in a tremendously good result for fiscal year 2020/21.

I will be stepping down from my position on the Supervisory Board on 31 December 2021. I would like to thank all the members of the Supervisory Board and the members of the Executive Board for the good and very successful collaboration over the past nine years. I wish the ZEISS Group and its employees all the best going forward.

Oberkochen, December 2021

On behalf of the Supervisory Board

D. Kurz

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

Supervisory Board of Carl Zeiss AG

Supervisory Board of Carl Zeiss AG

Dr. Dieter Kurz[9] | Lindau
Chairman
Chairman of the Shareholder Council of the Carl Zeiss Foundation, Heidenheim an der Brenz and Jena

Roland Hamm[1, 2] | Aalen
Deputy Chairman
First Authorized Representative of the IG Metall union, Aalen Administrative Office (until 31 July 2020)

Angelika Franzke[1] | Oberkochen
Deputy Chair[3]
Chairman of the Group Employee Representative Council of Carl Zeiss AG, Oberkochen

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

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

Kai Bliesener[1, 8] | Schwäbisch Gmünd
First Authorized Representative of the IG Metall union, Aalen Administrative Office (starting 1 September 2021)

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 Advanced Engineering at Robert Bosch GmbH, Stuttgart

Dr.-Ing. 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

Michael Kramer[1] | Jena
Production supervisor at Carl Zeiss Jena GmbH, Jena

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

Dr. Carla Kriwet[4] | Munich
BSH Hausgeräte GmbH, Munich

Gert-Hartwig Lescow[5] | Lübeck
Deputy Chairman of the Board and Chief Financial and IT Officer at Drägerwerk Verwaltungs AG, Lübeck

Prof. Dr. Jürgen Mlynek | Berlin
Former President of the Helmholtz Association of German National Research Centres, Berlin

Silke Müller[1] | Jena
Patent lawyer at the Jena site of Carl Zeiss AG, Oberkochen

Andrea Sicker[1, 6] | Bamberg
Second Authorized Representative of the IG Metall union, Bamberg Administrative Office

Dr. Lothar Steinebach[9] | 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)[9]
Dr. Klaus Dieterich
Roland Hamm[1, 2]
Angelika Franzke[1]
Andrea Sicker[1, 6]
Gerhard Bösner[1, 7]

Audit Committee
Dr. Lothar Steinebach (Chairman)[9]
Hariolf Abele[1]
Dr. Dieter Kurz[9]
Gerhard Bösner[1, 6]
Silke Müller[1, 7]

Mediation Committee
Dr. Dieter Kurz[9] (Chairman)
Dr.-Ing. Mathias Kammüller
Roland Hamm[1, 2]
Andreas Kopf[1]
Angelika Franzke[1]

[1] Employee Representatives
[2] Until 01.10.2020
[3] Starting 02.10.2020
[4] Until 01.03.2021
[5] Starting 02.03.2021
[6] Until 30.09.2021
[7] Starting 01.10.2021
[8] Starting 01.11.2021
[9] Until 31.12.2021

Last updated: December 2021

Group Management Report

THE ZEISS GROUP

Company profile

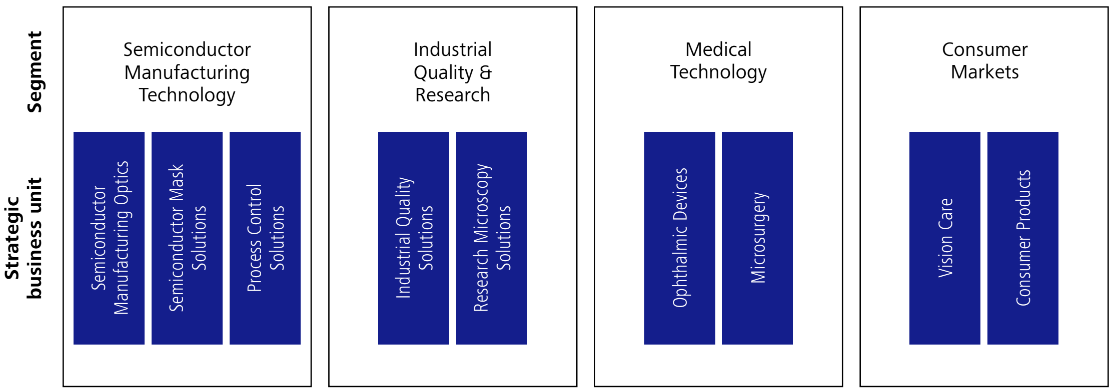
ZEISS is an internationally leading technology enterprise operating in the optics and optoelectronics industries. The ZEISS Group emerged from a workshop for precision mechanics and optics established by company founder Carl Zeiss in Jena (Thuringia) in 1846. Today, ZEISS is headquartered in Oberkochen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

The ZEISS Group is represented in nearly 50 countries and has some 60 sales and service locations, more than 30 manufacturing sites and 27 research and development centers around the globe.

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.

ZEISS comprises 4 segments: Semiconductor Manufacturing Technology, Industrial Quality & Research, Medical Technology and Consumer Markets. The ZEISS Group has a business portfolio that is divided into 9 strategic business units. These strategic business units are allocated to the respective segments.

Business portfolio



The sole owner of the company is the Carl Zeiss Foundation (Carl-Zeiss-Stiftung). As a company operating under the umbrella of the Carl Zeiss Foundation, ZEISS has been implementing the stipulations anchored in the Foundation statutes for over 130 years and constantly develops them further in the present context. For ZEISS as a foundation company, sustainability and business success are inextricably linked. Sustainable value added is an integral part of the corporate strategy, which aims to provide innovative solutions, contribute to a positive development in society and enable both long-term and profitable growth.

ZEISS aims to advance 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, eyeglass lenses as well as camera and cine lenses, binoculars and planetarium technology.

Semiconductor Manufacturing Technology
With its 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 microchips are made. ZEISS technology enables further miniaturization of semiconductor structures, making microchips smaller, more powerful and more energy-efficient. These electronic applications foster global advancement in a variety of disciplines, including technology, electronics, communications, entertainment, mobility, energy and artificial intelligence.

Industrial Quality & Research
The products and solutions developed in the Industrial Quality & Research segment are focused on quality assurance in production, increasing productivity and visualizing and manipulating the tiniest of structures in science and research. The range of coordinate measuring machines, optical and multisensory systems, software solutions, comprehensive service offerings and innovative technologies, such as 3D X-ray measurement in quality assurance, are used in the automobile industry, aircraft construction and mechanical engineering as well as in the plastics industry and medical technology. In the fields of science and research, the segment also covers the entire spectrum of microscopy with light, ion, electron and X-ray microscopes. The products and solutions are used in the life sciences and materials research, as well as in workflows in the electronics and pharmaceutical industries.

Medical Technology
The Medical Technology segment develops, manufactures, markets and sells diagnostic and treatment systems, as well as implants and consumables for ophthalmology. The portfolio also includes visualization systems for neuro/ENT and spine surgery as well as for dentistry. Solutions for intraoperative radiotherapy supplement the product offering. The segment's objective is to help drive progress in medicine and assist doctors all over the world in enhancing their patients' quality of life. Digital technologies with which the segment wants to shape the market for medical technology also play a role here. 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 operates in the areas of vision care, photography, cinematography, nature observation 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. With its camera and cine lenses, binoculars, spotting scopes and sports optics, ZEISS offers discerning customers high-end products and applications for their hobbies and professional needs.

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 the attractive future-oriented markets of optics, precision mechanics and optoelectronics. The objective of portfolio management is the lasting business success of the ZEISS Group. This requires a systematic strategy geared to continuously enhancing value added.

By focusing on shaping markets, creating networks and making an impact, #agenda25 provides direct impetus for the future strategic development of the ZEISS Group. In addition, it pools the key elements of the portfolio strategy and the individual segments. The ZEISS Agenda underscores the aspiration of ZEISS to be a global technology leader and market shaper. Through these areas of focus, the global Team ZEISS aims to significantly contribute to the success of its customers.

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.

Corporate management

The ZEISS Group is managed using a comprehensive system of indicators. 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). These indicators define the balance between growth, profitability and financial strength as the basis for the company’s sustainable development. Alongside these financial indicators, ”innovation”, “employees” and “sustainability” are important non-financial indicators.

REPORT ON ECONOMIC POSITION[1]

Macroeconomic and segment-specific environment

Macroeconomic environment
Fiscal year 2020/21 was still largely dominated by the COVID-19 pandemic. After the abrupt drop in demand and production, followed by a gradual recovery in 2020, economic growth picked up again considerably in 2021. However, the countries and sectors affected by this development are recovering to varying degrees and at different paces. Capacity and supply bottlenecks led to price hikes. In the production of semiconductor chips in particular, this meant that the high demand from customers could not be fully met. The automobile industry, for example, had to repeatedly curtail production due to a shortage of chips.

Segment-specific environment

Semiconductor Manufacturing Technology
In the reporting period, the market environment of the Semiconductor Manufacturing Technology segment benefited from the digitalization drive, which was given additional impetus by the COVID-19 pandemic. In turn, this led to revenue growth in the global semiconductor market. The rise in demand in the industrial and private sectors caused a global shortage of chips. The order books of semiconductor manufacturers, whose factories are currently already operating at very high capacity, are therefore well filled. Chip manufacturers plan to increase their production capacity and have already announced large investments to manage the high demand for semiconductors.

[1] Certain prior-year figures were restated as of 30 September 2020 due to the finalization of a purchase price allocation. For more information, please refer to Notes 2 and 6 of the Notes to the Consolidated Financial Statements.

The very high demand for semiconductor manufacturing equipment, especially for extreme ultraviolet (EUV) lithography systems and deep ultra violet (DUV) lithography systems, had a positive effect on ZEISS in fiscal year 2020/21. This strong demand for semiconductor manufacturing equipment is being driven by the acceleration of the digital transformation and, in the long term, by trends such as artificial intelligence and autonomous driving. In an endeavor to achieve technological sovereignty by setting up and expanding domestic chip manufacture, national support programs launched in the US and Europe aim to reduce reliance on chips manufactured in Asia.

Industrial Quality & Research
In fiscal year 2020/21, business in the industrial quality assurance area of the Industrial Quality & Research segment recovered. The automobile industry upped its spend on alternative drive technologies. The development of the markets was very dynamic and catch-up effects could be observed in the demand in certain regions and markets. Global research spending was more or less unchanged year on year. Positive impetus stemmed from central research institutions (Core Facilities).

Medical Technology
The market development for medical equipment and accessories is based on generally stable growth drivers. These include 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 rapidly 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. A particular focus is on the intelligent use of diagnosis and treatment data. 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. Even if further measures implemented to contain the COVID-19 pandemic, such as lockdowns and store closures, cannot be completely ruled out in some countries and regions, the market has largely recovered from the effects of the pandemic. The main growth drivers are increased purchasing power in emerging economies, the global rise in demand for vision care from an aging population, innovations in branded eyeglass lenses and digital customer service as well as the significant increase in short-sightedness (myopia). The global market for eyeglass lenses continues to be characterized by fierce price and competitive pressure and ongoing consolidation activities. The market for cine lenses developed very moderately again in fiscal year 2020/21, as almost all film productions worldwide came to a halt in the course of the pandemic and have not yet been fully resumed. From a long-term perspective, the uninterrupted demand will have a positive effect. By contrast, the market for camera lenses shrank significantly and irreversibly, mainly as a result of increasing smartphone photography. The markets for sports optics and nature observation grew slightly and recovered again quickly from the slump during lockdown.

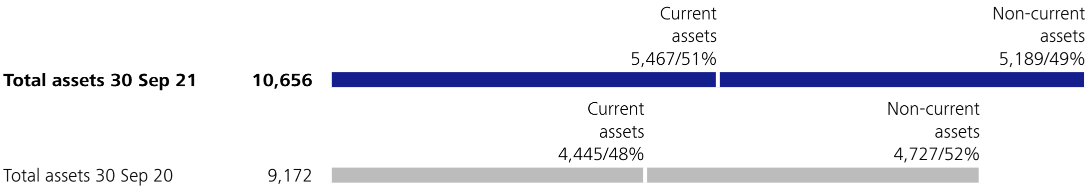
Overall statement on the economic situation of the Group as of fiscal year end

The ZEISS Group closed fiscal year 2020/21 with record revenue of €7,529m (prior year: €6,297m) and a return on EBIT of 20% (prior year: 15%). The prior-year's forecast of a slight increase in revenue and a return on EBIT of around 10% was significantly exceeded.

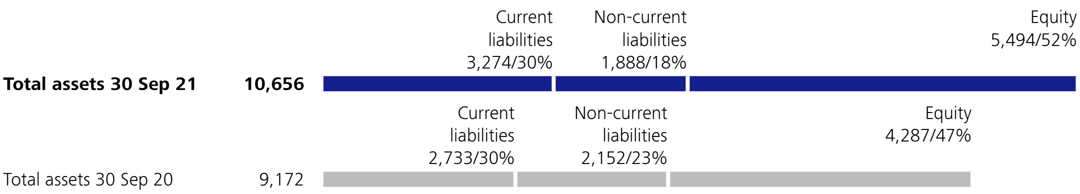
Net assets

Total assets increased by €1,484m to €10,656m (prior year: €9,172m).

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



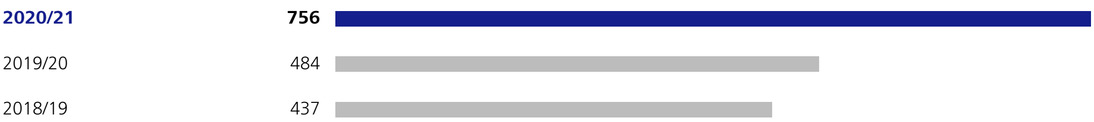
Intangible assets

Intangible assets of €1,613m (prior year: €1,613m) mainly contain goodwill of €1,285m (prior year: €1,277m). 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 2020/21, ZEISS invested a total of €756m in property, plant and equipment (prior year: €484m), mainly in expansion and modernization measures relating to infrastructure, production plants and in furniture and fixtures. In particular, this includes investments in the new ZEISS high-tech site at the Jena location, the ZEISS Innovation Hub on the campus of the Karlsruhe Institute of Technology (KIT) and the ZEISS Innovation Center in Dublin (USA). Depreciation in the reporting period amounted to €263m (prior year: €256m).

Capital expenditures on property, plant and equipment in € m



Other non-current assets

Other non-current assets amounted to €647m (prior year: €551m) and mainly pertained to securities, shares in non-consolidated subsidiaries, loans as well as assets for securing flextime credits via a contractual trust arrangement (CTA).

Working capital
The change in inventories, current trade receivables and trade payables is consistent with the increase in business volume compared to the prior year. Inventories come to €1,976m as of the reporting date (prior year: €1,736m). Current trade receivables increased by 15% to €1,330m. Trade payables amounted to €531m as of the reporting date (prior year: €420m).

Other current assets amounted to €583m (prior year: €776m) and include securities with a short-term investment horizon.

Current provisions came to €175m (prior year: €172m) and essentially comprise provisions for warranty obligations.

Accruals of €1,066m (prior year: €922m) mainly include personnel-related and sales-related obligations as well as outstanding invoices.

Other current liabilities of €949m (prior year: €785m) mainly contain advances received on account of orders and deferred income.

Increase in equity
Equity amounted to €5,494m as of the reporting date (prior year: €4,287m). The consolidated profit of €1,047m generated in the reporting period increased equity. In addition to this, the remeasurement of defined benefit plans of €333m through other comprehensive income as well as the differences arising from currency translation of €47m recognized in other reserves through other comprehensive income had a positive effect. The dividends paid of €217m reduced equity accordingly. The equity ratio stood at 52% (prior year: 47%).

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, amounted to €1,724m on the reporting date (prior year: €1,442m). This increase resulted from the positive value development and from allocations to the CTA of €91m. Benefit obligations in Germany decreased on account of the interest rate applied under IFRS, which increased to 1.35% (prior year: 1.05%). For reasons relating to the cut-off date, the pensions obligations had a funded status of 83% (prior year: 65%).

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 of €1,142m (prior year: €1,606m) are reported in the consolidated statement of financial position. This equates to 11% of total assets (prior year: 18%).

Financial liabilities
The financial liabilities of €905m (prior year: €648m) primarily contain loans, liabilities from dividends and purchase price obligations in connection with acquisitions and lease liabilities. Among other things, the increase stems from lease liabilities and an investment loan from ASML.

Financial position

The financial position was mainly shaped by the good consolidated profit in the reporting period as well as payments for capital expenditures on property, plant and equipment and dividend payments.

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 to €1,457m in the reporting year (prior year: €783m). In addition, allocations of €94m were made to plan assets in Germany and abroad (prior year: €33m).

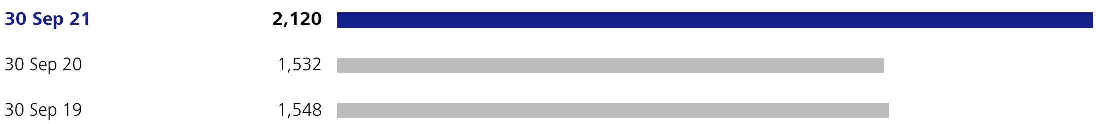
Cash flows from investing activities came to minus €525m in the reporting period (prior year: minus €338m). Payments for capital expenditures on intangible assets and property, plant and equipment increased from €458m to €623m in fiscal year 2020/21. The payments in connection with the acquisition of shares in entities of €59m (prior year: €94m) are counterbalanced by net cash inflow of financial assets of €132m (prior year: €187m) and proceeds from the disposal of intangible assets and property, plant and equipment of €25m (prior year: €27m).

Cash flows from financing activities came to minus €149m in fiscal year 2020/21 (prior year: minus €313m) and contain cash paid to repay loans and lease liabilities as well as dividend payments. This was counterbalanced by cash received from an investment loan of ASML. Dividends of €177m (prior year: €200m) were paid out in the reporting period.

Liquidity

Cash and cash equivalents[2] came to €2,296m as of the reporting date (prior year: €1,655m). On the other hand, there are loans payable[3] of €176m (prior year: €123m). Net liquidity thus stood at[4] €2,120m (prior year: €1,532m).

Net liquidity in € m



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 to finance its business operations. It matures on 2 August 2026. The revolving credit facility serves as a strategic liquidity reserve for the ZEISS Group and was not utilized in the reporting period.

Goals and principles of financial management

ZEISS has a global financial management system that incorporates all subsidiaries and is coordinated centrally at Group level. The primary objective is to secure and effectively manage the liquidity of the ZEISS Group. In addition, ZEISS strives to continuously improve its financial strength and minimize financial risks. Investments are made principally in securities from issuers with good credit ratings. ZEISS is mainly funded through the operations of the segments, with which the financial activities and strategic orientation are aligned. Even against the background of any other effects from the COVID-19 pandemic, the ZEISS Group currently has sufficient cash and cash equivalents and lines of credit to finance its operational and strategic objectives.

[2] Cash and cash equivalents plus securities and fixed-term deposits
[3] Liabilities to banks plus ASML loan
[4] Cash and cash equivalents less loans payable

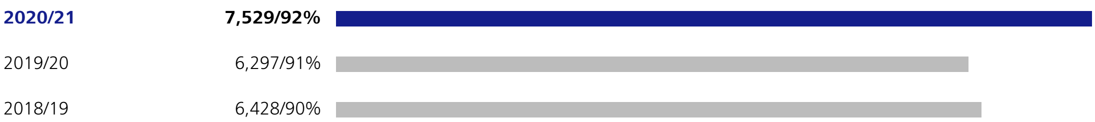
Results of operations

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

The results of operations are characterized by an increase in revenue in all segments and regions as well as a markedly higher EBIT margin of 20% (prior year: 15%). Currency effects had a slightly negative impact on the results of operations of the ZEISS Group in the reporting period.

At €7,529m, the ZEISS Group's revenue in the reporting period was 20% higher than the prior-year figure (€6,297m). At 92%, the share of international revenue remained unchanged at the level seen in prior years. The slight increase in revenue forecast in the prior year was significantly exceeded.

Revenue in € m/international share as a %



The ZEISS Group's incoming orders increased by 32% (adjusted for currency effects: 34%) in the reporting period to €8,974m (prior year: €6,814m). Incoming orders in the instrument segments changed by a total of 21% (adjusted for currency effects: 24%). The Semiconductor Manufacturing Technology segment recorded an increase in incoming orders of 53% (adjusted for currency effects: 53%) compared to the prior year.

Consolidated revenue by segment

Revenue by segment	2020/21	2019/20	Change compared to prior year as a %	
	€ m	€ m		Adjusted for currency effects
Semiconductor Manufacturing Technology	2,298	1,833	25	26
Industrial Quality & Research	1,801	1,640	10	12
Medical Technology	1,951	1,647	18	22
Consumer Markets	1,394	1,099	27	30
Other	85	78	9	9
ZEISS Group	**7,529**	**6,297**	**20**	**22**

Semiconductor Manufacturing Technology

The Semiconductor Manufacturing Technology segment generated revenue of €2,298m. That is equivalent to an increase of 25% (adjusted for currency effects: 26%) compared to the prior year (€1,833m).

The strategic business units for lithography optics and photomask systems in particular contributed to this renewed revenue record of the Semiconductor Manufacturing Technology segment, with both units generating increases compared to the prior year. These increases result from growth in volume and price adjustments. The high customer demand for deep ultraviolet (DUV) and EUV lithography systems continued once again in fiscal year 2020/21. DUV lithography systems are still a key revenue driver in the segment, in part due to demand from the expansion of the semiconductor industry in China. EUV lithography is considered the key technology of the future in the semiconductor industry to enable further miniaturization of microchips. For chip manufacturers, it is also the technology that distinguishes them from the competition. The manufacturers therefore announced substantial investment programs to increase their EUV capacities.

A major focus of the business activities of the segment and its strategic partner ASML is the extremely challenging development and ramp-up of the next generation of EUV lithography. This future-oriented technology, which has already entered production, should enable the semiconductor industry to produce even more powerful and energy-efficient microchips at a lower cost over the next decade.

In the segment’s other business with optical components and modules for lithography lasers and products for wafer inspection, demand remained at a high level in fiscal year 2020/21.

The sale of solutions used in the metrology, inspection and repair of photomasks contributed to the segment's growth by setting a new revenue record. In the business with products for wafer inspection and process controls, the segment focuses on technologies for the analysis of three-dimensional structures of microchips and on advanced process control solutions, for which capacities are being increased.

As of 30 September 2021, the segment had 5,211 employees worldwide (prior year: 4,335). This was the biggest increase in headcount recorded in the Semiconductor Manufacturing Technology segment to date.

Industrial Quality & Research

The Industrial Quality & Research segment generated revenue of €1,801m. That is equivalent to an increase of 10% (adjusted for currency effects: 12%) compared to the prior year (€1,640m).

Demand for products in the Industrial Quality & Research segment recovered again following a sharp decline in the prior year as a result of the pandemic. In the area of industrial quality assurance, substantial investments in alternative drive technologies by the automobile industry played a key role here. Business in the customer segments of the electronics and medical technology industries also developed positively. In addition to traditional tactile measuring technology, new solutions such as fast multi-sensor machines and computer tomography for non-destructive testing were in particularly high demand. Demand for optical measuring technology, high-resolution light, electron and X-ray microscopes as well as new technologies such as machine learning also developed positively. Business in China, on other Asian markets and in North America enjoyed a positive trend and an increasing willingness to invest was observed in these regions. However, the development on the European market was more modest. In particular, the transformation of the automobile industry and its supply chains slowed business.

Business with microscopy systems for research and science developed positively compared to the prior year and increased in all regions during the reporting period, especially in the APAC region. Demand for X-ray microscopes continued to develop well. Demand in the areas of light and electron microscopy as well as in the service business also rose year on year. The further expansion of remote service offerings also made it possible to leverage the installed base, which has grown steadily over the past years, for profitable growth in the service business.

As of 30 September 2021, the segment had 7,363 employees worldwide (prior year: 7,173).

Medical Technology

The Medical Technology segment generated revenue of €1,951m. That is equivalent to an increase of 18% (adjusted for currency effects: 22%) compared to the prior year (€1,647m).

The Ophthalmic Devices strategic business unit, which offers products and solutions to diagnose and treat eye diseases as well as systems and consumables, mainly for cataract, retina and refractive surgery, profited from a significant increase in recurring revenue, such as consumables for refractive laser treatment, implants such as intraocular lenses for the treatment of cataracts, and the service business. The equipment business also recovered despite the ongoing tense situation within the supply chains. In the Microsurgery strategic business unit, which offers visualization solutions for minimally invasive surgical treatments, an accelerated revenue recovery supported the positive development – again, despite the tense situation within the supply chains.

The APAC region reported strong growth thanks to good contributions to growth from China and South Korea in particular. In the Americas region, revenue continued to increase as a result of the further acceleration of the US business during the year. The core markets in the EMEA region, namely Germany, France, Southern Europe and the UK, saw a solid development.

As of 30 September 2021, the segment had 5,866 employees worldwide (prior year: 5,461).

Due to different bases of consolidation, the figures for the Medical Technology segment deviate from those published for Carl Zeiss Meditec AG.

Consumer Markets

The Consumer Markets segment generated revenue of €1,394m in fiscal year 2020/21. That is equivalent to an increase of 27% (adjusted for currency effects: 30%) compared to the prior year (€1,099m).

The Vision Care strategic business unit generated growth in all regions, in particular with ZEISS branded eyeglass lenses, innovations and digital offerings. In some countries, measures implemented to contain the pandemic still included partial lockdowns and store closures, although these remained limited in time and scope. Its customer-oriented strategic positioning also aided new customer acquisition. The effects of the restrictions due to the pandemic, which had largely dominated fiscal year 2019/20, were more than made up for. The USA, as the largest market, continued to be a challenge, mainly as a result of market entry barriers. Here, revenue with independent eye care professionals increased in particular.

Business in the Consumer Products strategic business unit was characterized by fierce competition in all categories and high price pressure in some. The market for camera lenses has irreversibly shrunk to a niche market around the world due to consumers switching to smartphone photography. ZEISS is taking advantage of new possibilities and market opportunities through strategic partnerships for mobile imaging. Although the offering for imaging technology cannot fully compensate for the structural changes in the market for camera lenses at present, it is growing steadily in importance. The hunting and nature market has largely overcome the effects of the measures implemented to contain the pandemic. The halting of film productions worldwide in the reporting period continues to affect the business with cine lenses.

As of 30 September 2021, the segment had 12,721 employees worldwide (prior year: 11,267).

Consolidated revenue by region and cooperations

Revenue by region and cooperations	**2020/21**	2019/20	Change compared to prior year as a %	
	€ m	€ m		Adjusted for currency effects
EMEA	1,953	1,746	12	13
» thereof Germany	602	588	2	2
Americas	1,416	1,180	20	28
APAC	2,020	1,738	16	18
Cooperations	2,140	1,633	31	31
ZEISS Group	**7,529**	**6,297**	**20**	**22**

In the economic region of Europe/Middle East/Africa (EMEA), ZEISS reported a rise in revenue in the reporting period of 12% (adjusted for currency effects: 13%) to €1,953m (prior year: €1,746m), with revenue in Germany increasing by 2% to €602m (prior year: €588m).

Revenue in the Americas region came to €1,416m, an increase of 20% (adjusted for currency effects: 28%) compared to the prior year (€1,180m).

Revenue in the Asia-Pacific region (APAC) increased by 16% compared to the prior year (adjusted for currency effects: 18%) to €2,020m (prior year: €1,738m).

Direct business with supra-regional cooperation partners increased by 31% to €2,140m in fiscal year 2020/21 (prior year: €1,633m), due largely to capacity expansions in the semiconductor industry, in particular in the area of EUV lithography.

Functional costs

Cost of sales increased by €410m in comparison to the prior year and came to €3,302m (prior year: €2,892m). Gross profit rose by €822m from €3,405m to €4,227m in the reporting period. The gross margin was 56% (prior year: 54%).

Sales and marketing expenses in fiscal year 2020/21 amounted to €1,348m (prior year: €1,248m) and were below the prior year at 18% of revenue (prior year: 20%). The change mainly relates to the instrument business. General administrative expenses stood at €462m (prior year: €413m). This was slightly below the prior-year level and accounted for 6% of revenue (prior year: 7%).

Research and development expenses recognized in the consolidated income statement came to €943m in the reporting period (prior year: €812m).

	2020/21	2019/20
	€ m	€ m
Research and development expenses according to consolidated income statement	943	812
Government and third-party grants	125	117
Capitalized development costs (IAS 38)	38	13
Research and development expenses before subsidies and IAS 38	**1,106**	**942**

Research and development expenses before subsidies and capitalized development costs (IAS 38) totaled €1,106m (prior year: €942m). Representing 15% of revenue and on a par with the prior year (15%), 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 €1,814m in the reporting period (prior year: €1,260m).

Earnings before interest and taxes (EBIT) of €1,479m (prior year: €922m) with an EBIT margin of 20% (prior year: 15%) were generated in the reporting period. The EBIT margin projected in the prior year was significantly exceeded.

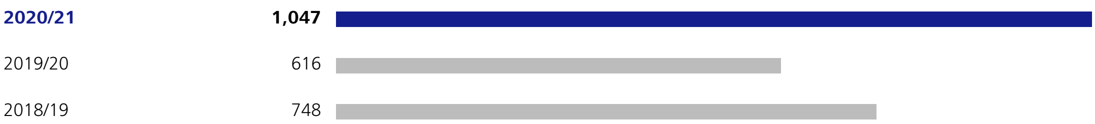
	2020/21	2019/20	2018/19
	€ m	€ m	€ m
EBITDA	1,814	1,260	1,382
» EBITDA margin as a %	24	20	21
EBIT	1,479	922	1,063
» EBIT margin as a %	20	15	17

The financial result improved by €5m compared to the prior year to minus €36m (prior year: minus €41m). The interest result changed by €25m to minus €18m (prior year: minus €43m). The other financial result changed by minus €20m to minus €18m (prior year: €2m). This is essentially attributable to effects from the measurement of financial assets and financial liabilities at fair value through profit or loss.

The tax expense for fiscal year 2020/21 totaled €395m (prior year: €266m), which resulted in a group tax rate of 27% (prior year: 30%).

ZEISS thus achieved a consolidated profit of €1,047m (prior year: €616m).

Consolidated profit/loss in € m



Other financial indicators

Other financial indicators are Economic Value Added (EVA®)[5] and Free Cash Flow (FCF)[6].

ZEISS measures the value added that is generated using the Economic Value Added (EVA®) indicator. This is the internal measure of the company's success. In fiscal year 2020/21, EVA® amounted to €818m (prior year: €444m). ZEISS therefore once again achieved considerable value added, which significantly exceeds the level forecast in the prior year.

The Free Cash Flow (FCF) indicator used for internal control amounted to €1,125m in the reporting period (prior year: €518m) and thus also significantly exceeded the level forecast in the prior year.

[5] Calculation: EVA® = operating profit (EBIT) after taxes plus amortization of intangible assets from purchase price allocations less cost of capital. Cost of capital is the average capital employed multiplied by the cost of capital rate. Capital employed is the committed business assets adjusted for amortization of intangible assets resulting from purchase price allocations ("gross" asset base). The internal interest rate used to determine weighted average of cost of capital ranges between 6.5% and 10%, depending on the business involved

[6] Calculation: Free Cash Flow (FCF) = EBIT ± changes in trade receivables ± changes in inventories ± changes in provisions (excluding provisions for pensions) ± changes in current accruals ± changes in trade payables ± changes in advances received ± changes in lease liabilities ± changes in other assets and liabilities - capital expenditures on intangible assets and property, plant and equipment + amortization and depreciation of intangible assets and property, plant and equipment

NON-FINANCIAL KEY PERFORMANCE INDICATORS

Sustainability

At www.zeiss.com/sustainability, 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 starting 15 December 2021.

Environment
ZEISS attaches great importance to the sustainable and economical use of resources as well as to protecting the climate and the environment. 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 units and for its suppliers. Furthermore, ZEISS has set clear targets for reducing energy consumption, carbon emissions, water consumption and waste. Where possible, ZEISS does justice to its identity as a foundation company by taking concrete measures to reduce carbon emissions and promote climate protection: ZEISS aims to operate in a carbon-neutral way in all of its own global activities by 2025. In this way, ZEISS is making a contribution to the global targets set in the Paris Agreement of limiting global warming to below 2°C.

Product responsibility
At ZEISS, product safety starts during development, goes hand in hand with procurement and production process and is a key aspect for customers when they use the products and for the after sales service. The product safety warranty is subject to a range of statutory requirements for the development, manufacture, approval and sale of products. Defective products can result in serious damage, primarily for the user, but also to the company's reputation. For ZEISS product responsibility does not only mean that products are innovative, effective and safe. ZEISS also makes sure to use commodities and materials that are harmless to human health and the environment, as well as to produce as few effluents and emissions and as little waste as possible during the manufacture and use of its products. ZEISS aspires to rigorously implement all product safety laws relating to product use and disposal.

Supplier management
Procurement is a key process for the long-term success of the ZEISS Group due to its considerable contribution to added value in the supply chain. Around the globe, the local procurement organizations purchase materials used both for production and for non-production from local and international suppliers. The company demands that its new and existing 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.

Societal and social engagement
Millions of people around the world are threatened by preventable blindness or cannot access medical care. ZEISS wants to set new standards in the healthcare sector with solutions in Vision Care and Medical Technology and thus promote medical progress. The aim is to help improve quality of life for patients in all areas in which ZEISS is active. For many years, ZEISS has worked with non-profit organizations and given donations in money and in kind to ensure that medical care is available to everyone in developing and emerging countries and that their medical professionals receive training.

In addition, ZEISS plays 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.

Dividends distributed to the Carl Zeiss Foundation are used within the framework of its aims to promote, in particular, scientific, engineering and mathematical studies in research and teaching.

Employees

Highly qualified, dedicated and motivated employees are the foundation for the long-term success of the ZEISS Group. The Group endeavors to ensure this remains the case. As of 30 September 2021, the total headcount of the ZEISS Group stood at 35,375, a global increase of 3,174 (prior year: 32,201). The largest increase in the number of employees was seen in the APAC region, which accounted for almost half of the total increase. The increase in headcount is therefore in line with the prior-year forecast.

According to the ZEISS Group, diversity is a prerequisite for innovation, which is why it is actively supported and strengthened by ZEISS. Around 58% (prior year: 57%) of the ZEISS workforce – equivalent to 20,527 employees (prior year: 18,509) – work outside Germany. At the same time, ZEISS in convinced that diversity in its different forms is the key to global success at an international company, as employees know the markets, understand the different needs of customers and know how to deal with the cultural customs of their business partners. According to ZEISS, this makes a huge difference in terms of local acceptance and confidence in the company.

Education and training is a top priority at ZEISS. As of the reporting date, the ZEISS Group had 474 trainees and students of universities offering dual degree programs (prior year: 473). The professional training of employees and leadership development are further areas of focus for ZEISS. Employees can select from a large number of internal and external courses that are available through the global digital learning platform. In addition, ZEISS supports off-the-job training and personnel development measures.

ZEISS promotes occupational health and safety through comprehensive measures. In addition to offering employees and managers advice from occupational health and safety professionals and company doctors, ZEISS also provides healthcare management. Both of the above focus on the health, motivation and performance of employees. Workplace design and the prevention of occupational accidents are central fields of action for all stakeholders. ZEISS and the statutory health insurance provider BARMER have been cooperating as healthcare partners since the start of 2021. Since then, all employees in Germany have been offered free health services related to exercise, nutrition and mental health. The development of health literacy among employees continues to be strengthened and advanced through this cooperation.

ZEISS has also attached great importance to protecting the health of its employees during the COVID-19 pandemic. In this context, the company implemented various measures aimed at helping to protect its workforce as best as possible. These included expanding the opportunities for working remotely, modifying the shift systems to avoid contact between people working different shifts and mostly switching to virtual meetings. ZEISS provided face masks and hand sanitizer to its employees in the departments. These measures supported social distancing and the containment and slowdown of the spread of the pandemic at ZEISS and in society. In addition to this, ZEISS was selected as a pilot company in the German vaccination campaign and was able to offer its employees a voluntary COVID-19 vaccine at an early stage. Thus, ZEISS could contribute to the acceleration of the vaccination drive and help relieve the strain on public vaccination centers.

ZEISS once again enabled its employees to participate in the success of its business this year. The ZEISS Group paid its employees in Germany a record bonus of €4,200 gross for its 175th anniversary, marking a record year. Some entities outside Germany have country-specific arrangements under which ZEISS enables its employees to participate in the profit for fiscal year 2020/21.

Innovation

Optical technologies are key technologies of the future. ZEISS therefore invests in innovations, which are the foundation for further growth at the ZEISS Group. Innovation is part of ZEISS' strategy and is firmly anchored in its corporate identity. ZEISS carries out traditional research and development activities while also encouraging all employees to suggest innovative ideas to the company and thus contribute to its business success.

ZEISS employees are constantly working on developing new products and improving existing ones, in order to help customers achieve long-lasting success. To remain competitive, ZEISS continuously improves its manufacturing and processing procedures and constantly evaluates its areas of application, business models and processes. To do this, ZEISS leverages its 175 years of experience.

Innovation management
ZEISS uses Group-wide innovation management to ensure that its ongoing and planned activities meet its customers' needs. ZEISS uses various tools here – for instance, the company evaluates each research and development project using a standardized process and incorporates the findings made into current and future projects.

Employees can submit their ideas for improvement via the company-wide suggestion scheme. The objective is to simplify processes in a cost-efficient way, so as to raise ZEISS' competitiveness in the long term. Ideas are converted into bonus points that can be exchanged for cash or non-cash rewards.

In fiscal year 2020/21, expenses on research and development made up 13% of revenue (prior year: 13%) and, as forecast, on a par with prior years. The ZEISS Group's research and development departments have 4,502 employees (prior year: 3,910 employees), or 13% of the workforce, working on new solutions and technologies for the optics and optoelectronics industries and digital business models.

As of the reporting date, ZEISS held about 10,900 patents worldwide (prior year: 9,800) and applied for new patents for approx. 500 inventions (prior year: approx. 580).

ZEISS Ventures
The strategic business units of the ZEISS Group operate in attractive target markets with long-term growth perspectives. Their focus is supported by megatrends which should open up significant possibilities for ZEISS, primarily for future growth.

ZEISS Ventures, a unit of the ZEISS Group, uses these possibilities by making investments and managing a portfolio of start-ups. It focuses on possibilities that lie between or beyond the activities of the strategic business units or that would potentially be a disruptive innovation. The aim is to invest in start-ups and form partnerships to establish long-term and sustainable businesses.

The portfolio of ZEISS Ventures contains a range of partnerships and investments. For instance, tooz technologies works with the application potential and future of data glasses for everyday use. Scantinel Photonics advances the development of second-generation high-performance light detection and ranging (LiDAR) sensors. Light detection and ranging technology is used in autonomous vehicle technologies. The inhouse smart glass technology of the ZEISS MicroOptics unit has made it possible to utilize transparent glass or plastic in a whole range of different ways. The see-through surfaces with integrated, invisible micro-structured optics permit a range of different applications, thus enabling innovations like gesture recognition or eye tracking without any visible optical systems. Use in smart homes is also conceivable.

Strategic partnerships and cooperations
The closer networking between business and science allows ZEISS – as an active promoter of science – to more intensively leverage synergy effects.

This includes the strategic partnership with Microsoft, which was formed in the past fiscal year in an effort to accelerate the expansion of ZEISS cloud-first digital services. By standardizing its products and processes on Microsoft Azure as its preferred cloud platform, ZEISS strives to provide its customers with an enhanced digital experience, respond to changing market demands more quickly and increasing its productivity.

In December 2020, vivo and ZEISS announced a long-term strategic partnership to jointly promote and develop innovations in mobile imaging technology. The first "vivo ZEISS co-engineered imaging system" is featured in the vivo X60 series.

The cooperation with Dresden University of Technology (TU Dresden), which was announced in February 2021, intends to consolidate the long-standing relationship between the two institutions in the areas of research, teaching and innovation, advanced training and internationalization as well as recruiting. ZEISS will expand its presence in Dresden in the coming years to benefit from the local research and innovation environment. Thus, ZEISS Innovation Hub in Dresden opened its doors in June 2021. The Hub's first innovation program is in the area of life sciences, although ZEISS plans to quickly expand the range of topics beyond the initial focus on biomedicine.

Digital transformation
The new business-supporting function, ZEISS Digital Partners, supports the ZEISS segments in implementing their digital ecosystem strategies. Integrating key IT systems at Group level, this enables the scaling of digital solutions. The integration, strengthening and global expansion of digital skills offers the ZEISS Group great opportunities to accelerate the transformation of its business.

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. The following statements in the risk and opportunity report refer to fiscal year 2021/22.

Risk management

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 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
ZEISS' internal control system is based on the COSO Enterprise Risk Management Model (COSO ERM model). It integrates organizational, process-related and technical measures to ensure proper operating activities and correct reporting. This 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 Executive Board ensures that an adequate and effective internal control system is in place and that it is continuously enhanced. The Supervisory Board's Audit Committee monitors the effectiveness of the internal audit function, risk management and the internal control system as well as the financial reporting process.

Strategic and operational risks

ZEISS systematically analyzes and evaluates risks. Special emphasis is placed on potential economic effects and on probability of occurrence. In this way, risks are quantified and classified, and the overall risk is determined. This range of potential developments is compared with the defined risk-bearing capacity, thus determining the potential credit risk for ZEISS. Due to its broad portfolio and global presence, the ZEISS Group's 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 entities by society and opportunities due to megatrends, such as digitalization, sustainability 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. In the event of a crisis, an existing crisis team coordinates measures to minimize the negative effects. International orientation, sustainable operating policies and a balanced portfolio help spread the risk. However, the introduction of trade barriers, customs duties and increasing economic uncertainty, government intervention and restrictions as well as protectionism 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 technical possibilities, 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. ZEISS Ventures, a business unit of the ZEISS Group, is invested in the development and commercialization of new business models. The new business-supporting function, ZEISS Digital Partners, supports the segments in making the opportunities offered by digitalization available to customers and partners. The economic impact and probability of occurrence inherent in digitalization risks are therefore both low.

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 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 by positioning itself as a target-group-oriented employer alongside 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.

During the COVID-19 pandemic, ZEISS set up a crisis team with global reach. Steered by the CEO and CFO of the ZEISS Group, it is responsible for overall crisis management, coordinates all measures including communication and works closely with local teams around the world. In order to ensure the safety of employees during the COVID-19 pandemic, attention increasingly turned towards working remotely. Opportunities from the new ways of working mainly related to diversity and attractiveness for current and future employees. ZEISS counters negative effects, such as the blurring of boundaries between personal and professional lives, by complying with regulations on working hours, new models for working time accounts, individual consultations and enhanced employee management. The probability of occurrence and the economic impact of personnel risks are therefore estimated to be low.

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 tense situation on the procurement markets for electronics, special plastic and semi-finished metal products, in particular magnesium alloys, represents a moderate risk for the ZEISS supply chain, which could have a negative impact on production supply and cost. As a preventive measure, ZEISS has increased its inventories of critical materials in the supply chain through purchase obligations or stockpiling. ZEISS addresses existing disruptions to the supply chain in task force mode. By employing predictive models, system-based risk management, escalations and requalifications, this enables the company to keep disruptions to a minimum. As a result, the effects on business activities are currently low. ZEISS expects the critical capacity situation in the supply chain to persist for an extended period of time.

The ongoing COVID-19 pandemic has reduced global sea and air freight capacity. Working groups are in place to address this risk. The anticipated effects on the supply chain are higher processing costs and longer transportation times. ZEISS assesses the effects as being low and the probability of occurrence as high.

With regard to the procurement of energy such as electricity and gas ZEISS is taking a more carbon-neutral approach. This results in a moderate risk from significantly rising procurement prices for green electricity and due to the conclusion of Power Purchase Agreements (PPAs) and carbon compensation with CO_2 certificates. There is still a moderate risk on account of increasing energy prices, potential pricing of emission allowances as well as industry-dependent capacity bottlenecks in the supplier chain.

The regulatory requirements for commodities and materials, the growing uncertainty in international trade, unilateral technology restrictions, 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. 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. ZEISS classifies the risk of breaches and associated reputational damage in the area of environmental health and safety in the supply chain as low as its partners are monitored regularly and the probability of breaches is low on account of the characteristics of the ZEISS supply chain.

Risks and opportunities of information technology (IT)
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 IT infrastructure is constantly increasing. During the COVID-19 pandemic, ZEISS focused squarely on remote working models, in part to ensure the safety of all employees. The ZEISS Group is therefore constantly optimizing 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, data security and data protection 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 and 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 and reducing the economic risks and the likelihood of their occurrence are a key element prior to closing transactions. The economic impact and probability of occurrence are therefore low.

By acquiring the majority of the shares in arivis AG, Rostock, ZEISS expanded its offering in the area of microscopy to include innovative 3D and Big Data software solutions. ZEISS wants to build on its software expertise and strengthen its market position in the field of 3D visualization, image processing as well as analysis software and technology for microscopy research.

Goodwill totaling €1,285m 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.

There is no pending litigation that poses any risk to the continued existence of ZEISS at present.

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. An appropriate and conservative investment strategy is in place with a focus 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. These risks may increase as a result of the COVID-19 pandemic. Risks of default are limited by choosing counterparties with good credit ratings given by external rating agencies. To limit and manage concentration risks, transactions are on principle conducted with various banks.

The COVID-19 pandemic generally exposes ZEISS to a greater risk of a default on customer receivables or insolvencies. This risk is being monitored. ZEISS intensified its receivables management in order to minimize the risk. However, a significant increase in defaults has not yet been identified.

On account of its global orientation, the ZEISS Group is exposed to financial market price risks in its operations and the financial results and cash flows reported. This includes currency and interest rate risks. The associated opportunities and risks of the ZEISS Group are managed centrally. 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 (underlying 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. As capital market interest rates fall, the required pension fund allocations increase. The existing pension agreements could give rise to risks with regard to equity which could in turn restrict scope for strategic action.

ZEISS has transferred the funds to cover pension obligations for 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 ensures the stability of the ZEISS Group, particularly in times of crisis, and helps spread the risk during the current COVID-19 pandemic. 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. Depending on the segment and individual risk, this results in different financial implications. In order to further reduce both the probability of occurrence and the economic risk, ZEISS runs programs designed to increase competitiveness and resilience (ability to withstand crises) in certain areas.

The global pandemic, macroeconomic and geopolitical uncertainties and volatility of the semiconductor sector entails risks and opportunities for the Semiconductor Manufacturing Technology segment, which ZEISS adapts to in a flexible manner. In particular, the market success of EUV lithography offers considerable growth opportunities while presenting high inherent technological risks for the segment when developing and manufacturing the next generation of EUV lithography systems. 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, particularly the automobile, aerospace and the associated supplier industries. These industries – especially the automobile industry – are undergoing a structural transformation. The further development of these industries with regard to their technology roadmap (electromobility) and willingness to invest also harbor risks for the segment. The Industrial Quality & Research segment is also exposed to risks from the general development of the international research expenditure in academia. These risks are reduced by continuously developing new application areas, through an innovative product portfolio as well as by stringently expanding the segment's business with customer services and by using digital sales and service options. The segment is therefore improving its product portfolio to tap into new market and customer potential, in part by integrating digital solutions. Opportunities arise for Industrial Quality & Research from more intense research in the life sciences and pharmaceuticals worldwide as well as 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 and government interventions (lockdown, prioritizing treatments) can have similar consequences. Refractive surgery is an elective procedure that patients pay for themselves. Demand therefore hinges on the general economic development and access to doctors, especially during a lockdown. 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. The rapidly developing economies offer further potential for growth due to the growing demand for basic medical care.

The Consumer Markets segment is exposed to risks arising from the fact that local or regional measures implemented to contain the pandemic, including store closures, cannot be ruled out as well as from fundamental changes in the market, ongoing consolidation in the industry, the change in consumer behavior and the horizontal and vertical integration of large competitors. Other risks include persistent pressure on prices, the potential 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. There is also the long-term risk of substitutes to traditional eyeglass lenses being developed. Adjusting the market to the pandemic and substitution effects can also lead to risks from a change in consumer behavior. This could create challenges at manufacturing sites and potentially the portfolio. The licensing business in the market for cine, camera and smartphone 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. There are also opportunities inherent in the technological and systematic digitalization in vision care, the growing global demand to correct visual impairment and, in connection with this, innovative, individualized branded eyeglass lenses, the optimization of the value chain, new industry and technology trends, such as smartphone photography, 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 or combination of risks were discernible that could jeopardize the ability of the ZEISS Group to continue as a going concern. The overall assessment shows that there is an improved risk-bearing capacity compared to the prior year, but a higher risk. This is mainly due to the effects of the COVID-19 pandemic as well as the structural transformation in the automobile industry. 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 and overcome the risks.

REPORT ON EXPECTED DEVELOPMENTS

Future conditions of business development

Economists currently expect the global economy to continue to grow in the coming year, even if this growth will be slightly more moderate due to the catch-up effects that have already occurred following the recession. They also expect supply bottlenecks, such as the shortage of semiconductor chips, to lead to adverse effects again in the coming year. However, these forecasts are subject to great uncertainty. It cannot currently be predicted how the COVID-19 pandemic will continue to develop. The higher levels of debt in the wake of the pandemic may result in payment defaults or a reluctance to invest, especially if interest rates are raised.

Furthermore, the tensions between the US and China entail a greater risk for the free movement of goods and could thus negatively impact global economic developments. Rising energy prices have a positive effect on the economies of gas and oil-producing countries, but can place a burden on importing countries.

Expected development of the markets and industries relevant for ZEISS

Semiconductor Manufacturing Technology

Despite an uncertain global economic situation and more difficult business conditions due to the pandemic, the Semiconductor Manufacturing Technology segment still finds itself in an strong market environment. There are therefore grounds for optimism: ZEISS see impetus for growth in the accelerated global digitalization, multi-year investment programs of chip manufacturers and national incentive programs. Drivers include technologies like 5G connectivity, self-driving cars, artificial intelligence and more powerful data centers. An excellent level of incoming orders and order backlog in all the segment’s units is a healthy foundation for fiscal year 2021/22. However, in the medium term it remains to be seen how the global economy will develop as a result of the pandemic and what the impact for the semiconductor industry and its suppliers will be.

Industrial Quality & Research

ZEISS expects business development in the Industrial Quality & Research segment in a competitive environment that is developing at different speeds to be largely stable. In the APAC region, especially in China, the Industrial Quality & Research segment anticipates continued strong growth in business. In other regions, ZEISS predicts a moderately positive development for fiscal year 2021/22. Overall, however, ZEISS anticipates growth through forward-looking projects, for example in additive manufacturing and electromobility. Additional positive impetus is expected for the industrial application of microscopes, especially in the area of electronics, and for public subsidies for research, particularly in the life sciences.

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. Growth in the low to mid single-digit percentage range is forecast for the medical technology industry as a whole for the coming years. In general, the Medical Technology segment expects further growth for fiscal year 2021/22.

Consumer Markets

For business in the Consumer Markets segment, ZEISS expects that global growth for vision care, film, hunting and nature observation will remain stable and that consumer behavior will be changed by digital offerings. Major drivers of the continued positive development of the vision care market are demographic trends, the significant increase in short-sightedness, rising income in the rapidly developing economies, increasing health awareness and growing demand for individualized branded eyeglass lenses for the modern lifestyle. ZEISS expects the advancing digitalization across the entire value chain of vision care – from consumption habits, in the eye care business, in production, lens fitting and eyeglass manufacturing as well as logistics, marketing, sales and customer service – to result in major changes. ZEISS expects the Consumer Products strategic business unit to face even tougher competition. Sales of camera lenses have irreversibly shrunk to a niche market around the world due to consumers switching to smartphone photography. ZEISS counters this by expanding its strategic partnerships for mobile imaging. Despite growth in the market for cine lenses, increased competitive pressure is expected due to the entry of new competitors from Asia. ZEISS anticipates that the market for hunting and nature observation will grow slightly and steadily in the long term.

Future research and development

The ZEISS Group makes significant investments in research and development projects. Efficient and targeted development processes play a central role here. The company is looking for new technologies and market trends to then be able to establish new solutions on the market. In order to achieve this, ZEISS includes regional market circumstances and customer needs in the development process from the very beginning. In fiscal year 2021/22, ZEISS aims to achieve a ratio of R&D to revenue on the same high level of the prior years.

Future personnel development

In order to continue to innovate and make a profit in the future, qualified and highly motivated employees are indispensable for the company’s success. In addition, it is extremely important to invest in the professional development of existing employees and hire qualified professionals and managers in the future. For the coming periods, the company therefore expects a further increase in headcount that correlates with the business development and makes future investments possible.

Overall statement on anticipated development

Based on the strategic focus and positioning of the segments in their respective markets, which ZEISS established and expanded in the past, mainly through its innovative strength, ZEISS plans revenue growth in the low single-digit percentage range with an EBIT margin of around 15% for fiscal year 2021/22. Furthermore, ZEISS forecasts Free Cash Flow (FCF) and Economic Value Added (EVA®) to be below the level of the current fiscal year in the mid triple-digit million range. At the time of publication, there was no indication that the forecast is not attainable.

Consolidated Financial Statements

Consolidated Income Statement
for the period from 1 October 2020 to 30 September 2021

	Note	2020/21	2019/20
		€ k	€ k
Revenue	7	**7,528,928**	**6,296,542**
Cost of sales		3,302,083	2,891,929
Gross profit		**4,226,845**	**3,404,613**
» Sales and marketing expenses		1,347,561	1,248,335
» General administrative expenses		461,982	412,934
» Research and development expenses		943,286	812,286
» Other income	8	5,867	9,041
» Other expenses	9	1,253	18,126
Earnings before interest and taxes (EBIT)		**1,478,630**	**921,973**
» Interest income	10	14,311	14,148
» Interest expenses	10	32,443	57,204
» Other financial result	10	-18,103	2,312
Financial result		**-36,235**	**-40,744**
Earnings before taxes (EBT)		**1,442,395**	**881,229**
» Income taxes	11	395,298	265,517
Consolidated profit/loss		**1,047,097**	**615,712**
» thereof profit/loss attributable to non-controlling interests		265,224	186,536
» thereof profit/loss attributable to the stockholder of the parent company		781,873	429,176

Consolidated Statement of Comprehensive Income
for the period from 1 October 2020 to 30 September 2021

	Note	2020/21	2019/20
		€ k	€ k
Consolidated profit/loss		**1,047,097**	**615,712**
Other comprehensive income that may be reclassified to consolidated profit/loss in subsequent periods:			
» Currency translation differences		46,664	-100,292
» Gains/losses from financial assets, at fair value through other comprehensive income		203	292
» Deferred income tax		76	-144
Other comprehensive income that will not be reclassified to consolidated profit/loss in subsequent periods:			
» Remeasurement of defined benefit plans		421,478	-6,365
» Deferred income tax		-88,524	1,408
Other comprehensive income (after taxes)		**379,897**	**-105,101**
Total comprehensive income		**1,426,994**	**510,611**
» thereof profit/loss attributable to non-controlling interests		297,705	177,861
» thereof profit/loss attributable to the stockholder of the parent company		1,129,289	332,750

Consolidated Statement of Financial Position

as of 30 September 2021

Assets	Note	30 Sep 21	30 Sep 20
		€ k	€ k
Non-current assets			
» Intangible assets*	12	1,613,196	1,613,209
» Property, plant and equipment	13	2,068,828	1,622,823
» Trade and other receivables	24	51,790	57,693
» Other non-current financial assets	14	638,319	541,985
» Other non-current non-financial assets	15	9,150	8,586
» Deferred tax assets	11	807,513	883,177
		5,188,796	**4,727,473**
Current assets			
» Inventories	16	1,975,984	1,736,252
» Trade and other receivables	24	1,330,287	1,152,781
» Other current financial assets	14	411,707	640,564
» Income tax refund claims		11,536	13,438
» Other current non-financial assets	15	171,758	135,723
» Cash and cash equivalents*	17	1,565,870	765,839
		5,467,142	**4,444,597**
		10,655,938	**9,172,070**

Equity and liabilities	Note	30 Sep 21	30 Sep 20
		€ k	€ k
Equity	18		
» Issued capital		120,000	120,000
» Capital reserves		52,770	52,770
» Retained earnings		5,191,222	4,442,908
» Other reserves		-711,766	-1,059,182
» Non-controlling interests		841,704	730,859
		5,493,930	**4,287,355**
Non-current liabilities			
» Provisions for pensions and similar obligations	19	1,141,994	1,605,834
» Other non-current provisions	20	93,258	102,124
» Non-current financial liabilities	22	540,527	338,461
» Other non-current non-financial liabilities	23	45,294	32,919
» Deferred tax liabilities*	11	67,047	72,494
		1,888,120	**2,151,832**
Current liabilities			
» Current provisions	20	174,736	172,332
» Current accruals	21	1,065,645	921,747
» Current financial liabilities	22	364,058	309,732
» Trade payables	24	530,771	419,618
» Current income tax payables		189,326	124,849
» Other current non-financial liabilities	23	949,352	784,605
		3,273,888	**2,732,883**
		10,655,938	**9,172,070**

*The prior-year figures were changed due to the finalization of a purchase price allocation. For more information, please refer to Notes 2 and 6 of the notes to the consolidated financial statements.

Consolidated Statement of Changes in Equity
for fiscal year 2020/21[1]

	Issued capital	Capital reserves	Retained earnings	Other reserves from currency translation	Other reserves from the remeasurement of defined benefit plans	Other reserves from financial assets, at fair value through other comprehensive income	Equity attributable to the stockholder of the parent company	Non-controlling interests	Consolidated equity
	€ k	€ k	€ k	€ k	€ k	€ k	€ k	€ k	€ k
1 October 2019	**120,000**	**52,770**	**4,087,107**	**56,409**	**-1,031,295**	**-724**	**3,284,267**	**705,708**	**3,989,975**
» Consolidated profit/loss	0	0	429,176	0	0	0	429,176	186,536	615,712
» Other comprehensive income	0	0	0	-91,846	-4,967	387	-96,426	-8,675	-105,101
Total comprehensive income	**0**	**0**	**429,176**	**-91,846**	**-4,967**	**387**	**332,750**	**177,861**	**510,611**
Dividends	0	0	-75,000	0	0	0	-75,000	-152,710	-227,710
Changes in basis of consolidation	0	0	1,625	12,854	0	0	14,479	0	14,479
30 September 2020	**120,000**	**52,770**	**4,442,908**	**-22,583**	**-1,036,262**	**-337**	**3,556,496**	**730,859**	**4,287,355**
» Consolidated profit/loss	0	0	781,873	0	0	0	781,873	265,224	1,047,097
» Other comprehensive income	0	0	0	44,059	302,977	380	347,416	32,481	379,897
Total comprehensive income	**0**	**0**	**781,873**	**44,059**	**302,977**	**380**	**1,129,289**	**297,705**	**1,426,994**
Dividends	0	0	-30,000	0	0	0	-30,000	-186,860	-216,860
Changes in basis of consolidation	0	0	-3,559	0	0	0	-3,559	0	-3,559
30 September 2021	**120,000**	**52,770**	**5,191,222**	**21,476**	**-733,285**	**43**	**4,652,226**	**841,704**	**5,493,930**

[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 2020 to 30 September 2021[1]

	2020/21	2019/20
	€ k	€ k
Consolidated profit/loss	1,047,097	615,712
Income taxes	395,298	265,517
Income tax paid	-343,459	-248,617
Amortization, depreciation and impairment net of reversals of impairment losses	334,868	337,881
Other non-cash income and expenses	4,831	13,374
Changes in provisions for pensions and similar obligations	50,360	67,079
Amounts allocated to the contractual trust arrangement and other plan assets outside Germany	-93,874	-32,982
Changes in other provisions	-9,515	-47,797
Gain/loss from the disposal of intangible assets and property, plant and equipment	-1,999	112
Loss from the deconsolidation of Carl Zeiss Vision Venezuela Industria Optica C.A., San Diego (Venezuela)	0	13,581
Gain/loss from the disposal of current securities	-43	13
Changes in inventories	-219,539	-155,335
Changes in trade and other receivables	-147,160	55,199
Changes in other assets	570	-28,099
Changes in trade payables	106,376	-19,925
Changes in current accruals	134,358	5,135
Changes in advances received	137,750	-47,066
Changes in other liabilities	61,281	-10,519
Cash flows from operating activities	**1,457,200**	**783,263**
Proceeds from the disposal of intangible assets and property, plant and equipment	25,139	27,237
Purchases of intangible assets and property, plant and equipment	-622,829	-458,397
Changes in financial assets	132,080	186,699
Acquisition of subsidiaries, net of cash and cash equivalents received[2]	-59,418	-93,659
Cash flows from investing activities	**-525,028**	**-338,120**
Dividend paid to the Carl Zeiss Foundation (Carl-Zeiss-Stiftung)	-30,000	-75,000
Dividends paid to non-controlling interests	-147,009	-124,579
Proceeds from sale and leaseback transactions	32,206	0
Proceeds from loans	124,400	0
Repayment of loans	-73,212	-61,780
Changes in other bank liabilities	904	-779
Repayment of lease liabilities	-56,200	-51,216
Cash flows from financing activities	**-148,911**	**-313,354**
Changes in cash and cash equivalents[2]	783,261	131,789
Changes in cash and cash equivalents from exchange rate movements and changes in the basis of consolidation	16,770	-15,983
Cash and cash equivalents as of 1 October	765,839	650,033
Cash and cash equivalents as of 30 September	**1,565,870**	**765,839**

Additional information on the statement of cash flows	2020/21	2019/20
	€ k	€ k
Payments of		
» Interest	12,153	14,686
» Dividends	177,009	199,579
Proceeds from		
» Interest	13,387	10,719
» Dividends	2,216	1,558

[1] For more information on the statement of cash flows, please refer to Note 25 of the notes to the consolidated financial statements.
[2] The prior-year figures have been changed. For information, please refer to Notes 2 and 6 of the notes to the consolidated financial statements.

Notes to the Consolidated Financial Statements
for fiscal year 2020/21

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, 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 entities 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 2021 were authorized for issue to the Supervisory Board by the Executive Board on 13 December 2021.

2 Basis of consolidation

The consolidated financial statements comprise the financial statements of Carl Zeiss AG as well as the financial statements of all material subsidiaries, including structured entities, that are directly or indirectly controlled by Carl Zeiss AG. Control exists when the Group can directly or indirectly exercise power over the investee, is exposed to variable returns on its involvement with the investee and has the ability to use its power over the investee to affect the amount of those returns. Subsidiaries that, on account of their lack or low level of business activity, are immaterial for the presentation of a true and fair view of the Group’s net assets, financial position and results of operations, either individually or in their totality, are generally included in the consolidated financial statements at cost.

The consolidated financial statements contain 40 (prior year: 39) fully consolidated German entities (including Carl Zeiss AG) and 115 (prior year: 116) fully consolidated entities in other countries. The entities are generally included in the consolidated financial statements from the date on which control is obtained.

Two special funds (prior year: one) are included in the consolidated financial statements as structured entities because the funds' 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 funds.

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 2020	39	116	155
Additions in the reporting period	3	1	4
Disposals in the reporting period	2	2	4
30 September 2021	**40**	**115**	**155**

Additions to the basis of consolidation
The following entities were included in the consolidated financial statements for the first time:
» Brock & Michelsen Invest A/S, Birkerød (Denmark)
(from 1 October 2020)
» Carl Zeiss Innovationszentrum für Messtechnik GmbH, Dresden
(from 1 October 2020)
» Holometric Technologies Forschungs- und Entwicklungs-GmbH, Essingen
(from 1 October 2020)
» LBBW AM-CZFS Spezialfonds, Stuttgart
(from 4 August 2021)
The additions to the basis of consolidation did not have any significant impact on the net assets, financial position and results of operations of the ZEISS Group.

Disposals from the basis of consolidation
The following entities were no longer included in the basis of consolidation in the reporting period:
» Brock & Michelsen Invest A/S, Birkerød (Denmark)
(merged into Carl Zeiss A/S, Birkerød (Denmark) as of 1 October 2020)
» Carl Zeiss Innovationszentrum für Messtechnik GmbH, Dresden
(merged into Carl Zeiss Industrielle Messtechnik GmbH, Oberkochen, as of 1 October 2020)
» Holometric Technologies Forschungs- und Entwicklungs-GmbH, Essingen
(merged into Carl Zeiss Industrielle Messtechnik GmbH, Oberkochen, as of 1 October 2020)
» Carl Zeiss IMT Co., Ltd., Tokyo (Japan)
(liquidated on 25 August 2021)
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.

Acquisitions in fiscal year 2020/21
The following business operations were acquired in fiscal year 2020/21:

In the reporting period, Carl Zeiss Vision Inc., Hebron (USA), acquired the assets and liabilities of a production site (optical laboratory) from U.S. Vision, New Jersey (USA), at a fair value of €7.2m, which was settled by netting the amount with a loan receivable. The Vision Care strategic business unit and U.S. Vision have worked together for many years. The acquired assets comprise land and buildings, technical equipment and machinery, and inventories. As ZEISS also hired 150 former U.S. Vision employees in the course of the acquisition, the transaction is regarded as a business combination. ZEISS will use the production site as a basis for future expansion.

In the reporting period, Carl Zeiss Co., Ltd., Hsinchu City (Taiwan), acquired the distribution and service operations in Greater China, in particular in Taiwan, from Taiwan Instrument Co., Ltd. (TIC), Taipei (Taiwan). TIC has been a strong partner of the Semiconductor Mask Solutions strategic business unit in the area of distribution and service in Greater China, in particular in Taiwan, since 1996. The acquisition includes TIC's employees with their long-standing experience and in-depth knowledge in the photomask business, its information and the associated assets. The purchase price was €6.1m. The acquired assets comprise identified intangible assets of €3.3m and goodwill of €2.8m. The goodwill includes non-separable intangible assets, stemming in particular from the employees' knowledge and skills, and the anticipated synergies. The goodwill is expected to be tax deductible.

In the reporting period, Carl Zeiss 3D Automation GmbH, Aalen, acquired the aftersales division of eumetron GmbH, Aalen. The eumetron aftersales division consists of a team of 13 employees and has been a sales partner of the Industrial Quality Solutions strategic business unit for aftersales products in the area of quality assurance and measuring technology since 2005. The acquisition is intended to create the basis for the further development and expansion of the aftersales business in Germany. The purchase price was €1.5m. The goodwill of €1.5m includes non-separable intangible assets, stemming in particular from the employees' knowledge and skills, and the anticipated synergies. The goodwill is expected to be tax deductible.

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

Acquisitions in fiscal year 2019/20

Photono Oy, Helsinki (Finland)
Under an agreement dated and effective as of 1 July 2020, Carl Zeiss Meditec AG, Jena, acquired 20% of the shares in Photono Oy, Helsinki (Finland) ("Photono"). It was also contractually agreed that Carl Zeiss Meditec AG can purchase additional shares up to 100% in Photono in several stages in the next 3 years. The purchase price of €14.0m comprises a payment made upon acquisition of 20% of the shares for €2.0m as well as €12.0m from options for 80% of the shares to be purchased in the future in several tranches. As of the date of acquisition, ZEISS Group assumed a discounted expected value of €10.4m for the options and recognized them in the current and non-current financial liabilities.

In the reporting period, Carl Zeiss Meditec AG, Jena, acquired a further 29% of the shares in Photono for €3.0m and reduced current financial liabilities accordingly, increasing its share in capital from 20% to 49%. Due to the fact that, from today's perspective, full acquisition is still possible at any time and would be advantageous at present for Carl Zeiss Meditec AG, Photono has been fully consolidated with 100% of the shares since the acquisition date.

At the time of publishing the consolidated financial statements of Carl Zeiss AG as of 30 September 2020, the purchase price had not yet been allocated to the assets and liabilities of the acquired entity because there was still some information outstanding about the assets and liabilities. The purchase price allocation was completed in the reporting period and the prior-year figure restated accordingly. The fair values of the identifiable assets and liabilities as of the acquisition date are as follows:

	Final purchase price allocation	Change	Provisional purchase price allocation
	€ k	€ k	€ k
Assets	**9,565**	**8,821**	**744**
Liabilities	**2,197**	**1,564**	**633**
Identifiable net assets	**7,368**	**7,257**	**111**
Goodwill from acquisition	5,022	-7,257	12,279
Purchase price	**12,390**	**0**	**12,390**
Cash received	1,000	1,000	0
Cash outflow due to acquisition	-2,000	0	-2,000
Actual cash outflow from acquisition	**-1,000**	**1,000**	**-2,000**

Changes to shares in subsidiaries currently under control
In fiscal year 2020/21, the following changes were recorded to shares in subsidiaries currently under control:

In the reporting period, Carl Zeiss Beteiligungs-GmbH, Oberkochen, acquired the remaining 49% of the shares in Carl Zeiss CIS Vertriebs GmbH (formerly Carl Zeiss OPTEC Vertriebs GmbH), Düsseldorf, at a purchase price of €29.0m, increasing its share in capital from 51% to 100%. As reciprocal put and call options with identical terms and conditions were in place for this 49% of the shares, the non-controlling interests were considered to have been acquired and were accounted for as a financial liability using the anticipated acquisition method. The effect of the remeasurement of the financial liability of €8.2m was recognized through profit or loss in the other financial result.

3 Consolidation principles

The consolidated financial statements are based on the financial statements of the subsidiaries included in the Group as of 30 September 2021, which have been prepared according to uniform accounting policies.

Acquisition accounting was performed 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 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 immediately 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 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. The same applies to purchase options that can be exercised at any time if their exercise would be advantageous at the current time. 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.

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.

Significant entities where the Group is able, directly or indirectly, to significantly influence financial and operating policy decisions (associates), or directly or indirectly shares control (joint ventures), are accounted for using the equity method. Associates and joint ventures that are immaterial are generally carried at cost.

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.

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%.

	2020/21	2019/20
	€ k	€ k
Revenue	1,646,785	1,335,452
Consolidated profit/loss	237,519	123,421
Other comprehensive income	35,191	-31,683
Total comprehensive income	272,710	91,738

	30 Sep 21	30 Sep 20
	€ k	€ k
Non-current assets*	791,950	721,098
Current assets*	1,604,018	1,290,507
Assets held for sale	0	3,245
Non-current liabilities*	270,467	266,708
Current liabilities	448,118	297,584
Equity	1,677,383	1,450,558

	2020/21	2019/20
	€ k	€ k
Cash flows from operating activities	362,663	178,527
Cash flows from investing activities*	-75,200	-70,947
Cash flows from financing activities	-285,889	-122,961
Changes in cash and cash equivalents from exchange rate movements and changes in the basis of consolidation	-337	-1,056
Changes in cash and cash equivalents*	1,237	-16,437

	2020/21	2019/20
	€ k	€ k
Consolidated profit/loss attributable to non-controlling interests	97,145	50,479
Total comprehensive income attributable to non-controlling interests	111,538	37,521
Dividends paid to non-controlling interests	18,274	23,756
Equity attributable to non-controlling interests	686,050	593,278

* The prior-year figures were changed due to the finalization of a purchase price allocation. For more information, please refer to Notes 2 and 6 of the notes to the consolidated financial statements.

The partnership between the Semiconductor Manufacturing Technology segment and ASML was intensified further in fiscal year 2016/17. In connection with this, ASML acquired 24.9% of the shares in Carl Zeiss SMT Holding GmbH & Co. KG and thus participated 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 21	30 Sep 20	**30 Sep 21**	30 Sep 20
	€ k	€ k	€ k	€ k
Non-current assets	45,273	44,988	641,604	464,039
Current assets	805,430	641,555	1,758,115	1,547,853
Non-current liabilities	3,225	2,547	289,593	274,457
Current liabilities	797,023	634,231	1,882,910	1,645,588
Equity	50,455	49,765	227,216	91,847
Other comprehensive income	179	-34	74,689	-1,466
Revenue	3,821	3,315	2,265,271	1,808,550
Profit/loss for the year	665,251	514,830	60,680	34,147

5 Currency translation

The consolidated financial statements are presented in euros. In the annual financial statements of those entities included in consolidation, transactions in foreign currencies are translated at the relevant 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 recognized in the consolidated income statement under financial result.

Financial statements denominated in foreign currency of the subsidiaries included in 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 reporting date, whereas equity is translated at historical rates. The income and expense items from the income statement are translated using annual average rates. Any exchange differences arising are recognized through other comprehensive income within other reserves from currency translation.

The functional currency of Carl Zeiss Vision Argentina S.A., Buenos Aires (Argentina), which is 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 2021 were used for currency translation:

		Closing rate		Average rate	
	€1 =	**30 Sep 21**	30 Sep 20	**2020/21**	2019/20
China	CNY	7.4847	7.9720	7.7808	7.8456
UK	GBP	0.8605	0.9124	0.8739	0.8785
Japan	JPY	129.6700	123.7600	128.4790	120.7124
South Korea	KRW	1,371.5800	1,368.5100	1,348.8823	1,337.3468
USA	USD	1.1579	1.1708	1.1957	1.1197

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.

Restatement of prior-year figures

In the reporting period, the purchase price allocation for Photono Oy, Helsinki (Finland), was finalized, resulting in a restatement of the figures in the statement of financial position as of 30 September 2020. The changes in the prior-year figures stemming from the purchase price allocation are as follows:

	Restatements in the consolidated statement of financial position as of 30 Sep 20	Restatement of the figures in the statement of financial position	Published consolidated statement of financial position 30 Sep 20
	€ k	€ k	€ k
Goodwill	1,277,153	-7,257	1,284,410
Development costs	139,429	7,821	131,608
Cash and cash equivalents	765,839	1,000	764,839
Deferred tax liabilities	72,494	1,564	70,930

In the statement of cash flows, the item “Acquisition of subsidiaries, net of cash and cash equivalents received” changed from €94,659k to €93,659k. See Note 2 for further details on the finalization of the purchase price allocation.

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
29 March 2018	Amendment to the Conceptual Framework	Revised definitions of an asset and liability and new guidance on measurement and derecognition, presentation and disclosure
22 October 2018	Amendments to IFRS 3 *Business Combinations*	Amendments to the provision defining whether a business or a group of assets is acquired
31 October 2018	Amendments to 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 preventing the understandability of financial statements being reduced by obscuring material with immaterial information
26 September 2019	Amendments to IFRS 9 *Financial Instruments*, IAS 39 *Financial Instruments: Recognition and Measurement* and IFRS 7 *Financial Instruments: Disclosures*	Interest Rate Benchmark Reform - Phase 1: issues affecting financial reporting in the period before the replacement of an existing interest rate benchmark with an alternative interest rate
31 Mar 2021	IFRS 16 *Leases*	Option to assess whether or not rental concessions due to the COVID-19 pandemic constitute a lease modification

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.

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

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. The new or amended rules and regulations mentioned in the following table have not been early adopted in the accompanying consolidated financial statements of Carl Zeiss AG. They are not currently expected to have any significant impact on the net assets, financial position and results of operations of the ZEISS Group. They will be applied when they become mandatory.

Date of issue	Standard/interpretation	Amendment/new standard or interpretation	Effective date	Endorsed by the EU
18 May 2017	IFRS 17 *Insurance Contracts*	Principles for the recognition, measurement, presentation and disclosure of insurance contracts (replaces IFRS 4)	Periods beginning on or after 1 January 2023	No
23 January 2020	Amendments to IAS 1 *Presentation of Financial Statements*	Clarification of the criteria to classify liabilities as current or non-current	Periods beginning on or after 1 January 2023	No
14 May 2020	Improvements to IFRS (2018 - 2020)	Amendments to IAS 41, IFRS 1, IFRS 9 and the illustrative examples for IFRS 16	Periods beginning on or after 1 January 2022	Yes
14 May 2020	Amendments to IFRS 3 *Business Combinations*	Update of a reference to the Conceptual Framework	Periods beginning on or after 1 January 2022	Yes
14 May 2020	Amendments to IAS 16 *Property, Plant and Equipment*	Clarification that revenue arising while preparing an asset for use must be recognized in profit or loss	Periods beginning on or after 1 January 2022	Yes
14 May 2020	Amendments to IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*	Clarification of what costs should be considered in assessing whether a contract is onerous	Periods beginning on or after 1 January 2022	Yes
14 May 2020	Amendments to IFRS 4 *Insurance Contracts*	Temporary exemption from applying IFRS 9 until the first-time application of IFRS 17	Periods beginning on or after 1 January 2021	Yes
27 August 2020	Amendments to IFRS 4 *Insurance Contracts*, IFRS 7 *Financial Instruments: Disclosures*, IFRS 9 *Financial Instruments*, IFRS 16 *Leases* and IAS 39 *Financial Instruments: Recognition and Measurement*	Interest Rate Benchmark Reform – Phase 2: Additional relief from applying IAS 39 and IFRS 9 for hedge accounting	Periods beginning on or after 1 January 2021	Yes
12 February 2021	Amendments to IAS 1 *Presentation of Financial Statements*	Limitation of the disclosure of accounting policies to material policies, for example in connection with material transactions, policy changes or significant judgment	Periods beginning on or after 1 January 2023	No
12 February 2021	Amendments to IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*	Clarification of the distinction between changes in accounting policies from changes in accounting estimates	Periods beginning on or after 1 January 2023	No
7 May 2021	Amendments to IAS 12: *Income Taxes*	Narrowing of the scope of an exemption from recognizing deferred taxes in specific cases	Periods beginning on or after 1 January 2023	No

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*.
» Assessment of the expected probability of default when assessing trade receivables and other financial assets.

» The measurement of lease liabilities pursuant to IFRS 16 *Leases*. In determining the lease term, all facts and circumstances that create an economic incentive to exercise options to extend the lease or not exercise termination options are taken into account;
» The share of revenue comprising contractual fees that are in part variable or contingent on future events.

In addition, estimates are required when assessing the recoverability of inventories 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.

Current versus non-current classification
In the statement of financial position, assets and liabilities are classified as current or non-current depending on their maturity.

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

ZEISS recognizes revenue when control over the distinct goods and services is transferred to the customer, i.e. as soon as the customer has the ability to direct the use of, and obtain substantially all of the remaining benefits from the goods or services transferred. The recognition of revenue requires a contractual agreement that creates legally enforceable rights and obligations. The amount of revenue recognized is the expected consideration to which ZEISS is contractually entitled. Where required, revenue is adjusted for variable price components such as cash discounts, price reductions, customer bonuses and rebates. These are mainly volume-based bonuses measured on the basis of estimated future purchase volumes. Rebates are generally allocated to the individual performance obligations on the basis of the relative stand-alone selling prices.

Revenue from the sale of goods is recognized when control is transferred to the customer, which is normally when the goods are delivered. Revenue from services, for example under maintenance agreements, is recognized over time since the customer simultaneously receives and consumes the benefits evenly throughout the performance period. It is recognized on either a straight-line basis or, where the performance obligation is not satisfied on a straight line basis, in line with the provision of the services in proportion to the total services to be provided. Revenue from royalties that ZEISS collects as a usage fee (fee for an access right) over the period of use are recognized according to the economic substance of the underlying contract. In all cases described, revenue is recognized in accordance with the output method, since customers normally use both the services and the licenses evenly throughout the year.

When goods are sold, the customer pays on receiving the invoice after the goods are delivered. Advance payments may be requested from customers. The payment terms vary depending on the customary conditions in the respective countries and industries and usually allow short-term payment terms.

In addition to conventional product sales, ZEISS offers several performance obligations under multiple component arrangements. This can be, for example, the sale of a product combined with a service-type warranty, related services and/or an additional sale of consumables. If a single contract with a customer comprises several performance obligations and the timing of satisfaction of the performance obligations differs, the agreed transaction price is allocated to the separate performance obligations in accordance with the contractually stated prices or, more rarely, in accordance with the relative stand-alone selling prices. Since the agreed prices are normally the stand-alone selling prices within the meaning of IFRS 15 *Revenue from Contracts with Customers*, they do not need to be re-allocated to the product delivery and services.

Revenue from the sale of service-type warranties is recognized pro rata temporis over the contractually agreed warranty period.

No financing component is included in the determination of the amount and timing of revenue recognition when the period between transferring the goods or services and the customer paying for the goods or services is 1 year or less.

Incremental costs of obtaining contracts with customers (mainly sales commissions) which are amortized over 1 year or less are expensed immediately.

The contract liabilities largely relate to prepayments received on account of orders and deferred revenue due to the recognition of revenue over time (for example service revenue).

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.

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 costs are deducted from the expenses when they become receivable for services already performed and thus spent.

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.

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.

Depreciation 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 except for right-of-use assets 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, for example 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.

The property held to earn rentals is immaterial and recognized at cost pursuant to IAS 40 *Investment Property*.

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 23 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. The Group performs impairment testing if any indication of impairment exists or if this is required. 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 generally 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. As a rule, public investment grants are 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. In Germany, grants for social security contributions attributable to a reduced working hours policy in connection with the COVID-19 pandemic are deducted as income from cost of sales and functional costs, depending on which function the corresponding personnel expenses are allocated to.

Leases

IFRS 16 *Leases* requires lessees to recognize all leases in the form of a right-of-use asset and corresponding lease liability. The lease liability is measured at the present value of the outstanding lease payments. They are presented in the income statement as financing activities so that the right-of-use asset is amortized on a straight-line basis and the lease liability is rolled forward using the effective interest method. Renewal, termination and purchase terms are taken into account during initial measurement of the lease liability if their exercise has become reasonably certain (especially property leases). The practical expedients for low-value leased assets and short-term leases will be used.

Sale and leaseback agreements are presented using the same principles.

Use is made of the practical expedient to account for rental concessions due to the COVID-19 pandemic in such a way that they would not constitute modifications to the lease agreement. The rental concessions primarily relate to rent-free periods or temporary rent reductions for property and IT leases.

Lessors must assess as of the commencement date whether a lease is a finance lease or an operating lease. The lease is a finance lease if all significant risks and rewards are transferred. In this case, a receivable is recognized in the amount of the net investment in the lease. The corresponding interest income is presented in the financial result. Lease payments under operating leases are recognized in income on a straight-line basis over the lease term.

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*. As of the date of initial recognition, financial assets and financial liabilities are measured at fair value and classified in accordance with the provisions of IFRS 9 *Financial Instruments*.

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.

IFRS 9 divides financial assets into the following measurement categories:

» At amortized cost (AC)
» At fair value through profit or loss (FVPL)
» At fair value through other comprehensive income (FVOCI)

The classification and measurement of financial assets is based on the business model and the structure of the cash flows. Classification depends on

» whether the underlying business model is aimed at holding financial assets to collect contractual cash flows ("hold" business model), whether the objective is to both collect contractual cash flows and sell financial assets ("hold and sell" business model) or solely sell the financial assets ("sell" business model) and
» whether the contractual cash flows are solely payments of principal and interest (SPPI).

The business model is determined based on the corporate management of the ZEISS Group. To this end, the financial instruments are combined into groups, each of which have a consistent underlying business model. The characteristics of the contractual cash flows are reviewed at the level of the individual financial instruments.

Financial assets whose contractual cash flows are solely payments of principal and interest on the principal amount and that are held under a "hold" business model are measured at amortized cost. These are trade receivables, cash and cash equivalents, cash at banks, loans, securities and sundry financial assets. The assets are subsequently measured using the effective interest method. Gains and losses from impairment or derecognition are recognized in the income statement.

If the objective is to both collect the contractual cash flows and sell the financial assets ("hold and sell" business model), the financial assets are measured at fair value through other comprehensive income (FVOCI). Unrealized gains and losses are recognized in other comprehensive income. If the assets are sold the cumulative gains and losses from the change in fair value are reclassified to the income statement. Interest income is recognized in profit or loss using the effective interest method.
This mainly relates to securities.

Financial assets that do not meet the SPPI criteria or are held under a "sell" business model are measured at fair value through profit or loss (FVPL). Gains and losses from the change in fair value are recognized directly in the income statement. This mainly relates to securities and derivatives.

Financial instruments classified as equity instruments are allocated at "fair value through profit or loss" (FVTPL) measurement category. Entities may also opt to allocate equity instruments at "fair value through other comprehensive income" (FVOCI) measurement category. If the option is exercised, the gains or losses from this financial instrument are recognized in other comprehensive income and may not be subsequently reclassified to the income statement. This option was exercised for certain investments, since ZEISS intends to hold these investments long term.

Subsidiaries, associates and joint ventures that are not consolidated on the grounds of immateriality do not fall under the scope of IFRS 9 and IFRS 7.

Financial assets are subject to credit risk which is accounted for by recognizing a risk provision or, if losses have already occurred, an impairment loss. Specific allowances and portfolio-based allowances based on the expected credit loss model are recognized to cover the credit risk. The extent of expected losses is categorized according to a 3-stage model (general approach) depending on whether the credit risk of a financial instrument has increased significantly since initial recognition. Stage 1 comprises financial assets that have not deteriorated significantly in credit quality since initial recognition. In these cases, 12-month expected credit losses are recognized. If there is a significant increase in the risk of default by the debtor, the financial instrument is allocated to stage 2 and an allowance is recognized in the amount of the expected losses over the entire term or life of the asset. If there is further objective evidence of impairment, the financial assets are allocated to stage 3. Objective evidence includes delay of payment by more than 90 days, information about financial difficulties of the debtor or insolvency proceedings filed against the debtor. The general approach is used to determine the expected credit losses for all assets except trade and other receivables.

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

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

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.

Trade and other receivables
Trade and other receivables are accounted for at nominal value or amortized cost. Trade receivables are recognized when an unconditional right to consideration from the customer exists. The simplified approach is applied to determine allowances for trade receivables and receivables under financial leases. According to this, expected credit losses are always calculated over the entire lifetime of financial instruments. As a practical expedient, the ZEISS Group applies a provision matrix for non-credit-impaired receivables which determines the expected losses as a percentage based on the number of days overdue. The calculation is based on historical loss experience and is supplemented by relevant forward-looking parameters. This takes current macroeconomic forecasts and various scenarios with regard to the COVID-19 pandemic into account. The forecasts cover a full economic cycle at a minimum. If information about financial difficulties of the debtor is available, the receivables are assessed on a case-by-case basis and an allowance is recognized for credit-impaired receivables. An allowance account is used to post changes to allowances.

A financial instrument is derecognized if the rights to cash flows have expired, due to the conclusion of insolvency proceedings, a court ruling or depending on other circumstances in the local law. A financial asset is also derecognized if the significant risks and rewards are transferred.

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 healthcare 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 dependents’ 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 (assurance-type warranties). Provisions are recognized for expenses expected to be incurred under guarantee or warranty obligations unless there are separate performance 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 expects 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
Financial liabilities and the outstanding invoices reported in accruals are normally measured at amortized cost using the effective interest method. Financial liabilities comprise liabilities to banks, loans and other financial 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.

The fair value option offered by IFRS 9 is not applied.

Contract liabilities are recorded when the customer pays consideration before the corresponding goods or services are transferred to the customer. Contract liabilities are recognized as revenue when the contractual obligations are fulfilled.

NOTES TO THE CONSOLIDATED INCOME STATEMENT

7 Revenue

Revenue by region breaks down as follows:

	2020/21		2019/20	
	€ k	%	€ k	%
Germany	619,209	8	598,256	9
EMEA (without Germany)	3,337,259	45	2,715,154	43
Americas	1,528,525	20	1,236,609	20
APAC	2,043,935	27	1,746,523	28
	7,528,928	**100**	**6,296,542**	**100**

Of revenue, €6,738m (prior year: €5,620m) is attributable to the sale of goods, €758m (prior year: €647m) to the rendering of services and €33m (prior year: €29m) to the granting of licenses.

Revenue of €683m (prior year: €721m) was recognized under contractual liabilities at the beginning of the reporting period. Contracts with customers of €851m (prior year: €683m) currently still recorded under current contract liabilities are expected to result in revenue in the next fiscal year.

The transaction price allocated to the remaining performance obligations (fully or partially unsatisfied) from contracts for the provision of services with an original expected duration of more than 1 year is expected to result in revenue of €21m in fiscal year 2022/23 (prior year: €17m for fiscal year 2021/22) and €14m in the subsequent fiscal years (prior year: €11m). In addition, there are contractual performance obligations from the order backlog of €4,141m (prior year: €2,645m).

8 Other income

Other income contains income from disposals of property, plant and equipment, from the reversal of other provisions and 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 allocations to other provisions and other operating expenses not attributable to functional costs.

10 Financial result

Interest result

	2020/21	2019/20
	€ k	€ k
Interest income	**14,311**	**14,148**
» thereof from affiliates	253	234
Interest expenses	**32,443**	**57,204**
» thereof to affiliates	2	19
» thereof from leases	5,964	6,848
» thereof net interest cost for pensions	17,165	16,353
	-18,132	**-43,056**

Other financial result

	2020/21	2019/20
	€ k	€ k
Income from investments	2,137	1,558
Income from profit transfer	16,664	29
Expenses for loss absorption	1,291	1,555
Investment result	**17,510**	**32**
Result from exchange differences	918	-20,600
Result from changes in market value	-22,840	37,181
Sundry other financial result	-13,691	-14,301
Other financial result	**-18,103**	**2,312**

Income from investments includes income from affiliates of €1,138k (prior year: €828k).

The result from exchange differences should be seen in the context of the hedging of currency risks. The result from changes in market value mainly include effects from the measurement of financial assets and financial liabilities at fair value through profit or loss.

The sundry other financial result mainly contains the remeasured financial liability in connection with the acquisition of Carl Zeiss CIS Vertriebs GmbH (formerly Carl Zeiss OPTEC Vertriebs GmbH), Düsseldorf, and the impairment of other financial assets.

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:

	2020/21	2019/20
	€ k	€ k
Current tax expenses less tax refunds and reversal of tax provisions	410,673	277,342
Deferred tax income	-15,375	-11,825
» thereof from temporary differences	1,294	-35,393
» thereof from changes in tax rates	1,020	2,014
» thereof from unused tax losses including any reductions	-17,689	21,554
	395,298	**265,517**

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 31.2% (prior year: 25.0% to 30.7%). The tax rates form the basis for the calculation of current taxes.

The nominal tax rates applicable outside Germany in the fiscal year ranged between 7.5% and 35.0% (prior year: 7.5% and 47.0%).

Significant estimates are required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and level of future taxable profits together with future tax planning strategies. The deferred tax assets are assumed to be recoverable on account of the planned business development in subsequent years.

The total amount of deferred tax assets and liabilities as of 30 September 2021 is allocated to the following items of the statement of financial position:

	30 Sep 21		30 Sep 20	
	Assets	Liabilities	Assets	Liabilities
	€ k	€ k	€ k	€ k
Non-current assets	**29,636**	**101,593**	**35,384**	**102,509**
Intangible assets	5,006	69,764	15,525	69,744
Property, plant and equipment	16,611	28,254	14,600	31,028
Other non-current assets	8,019	3,575	5,259	1,737
Current assets	**103,902**	**34,671**	**86,579**	**24,316**
Inventories	88,227	10,265	72,361	7,075
Receivables and other current assets	15,675	24,406	14,218	17,241
Non-current liabilities	**568,575**	**7,534**	**646,917**	**5,767**
Provisions for pensions and similar obligations	518,656	5,117	588,095	3,810
Other non-current liabilities	49,919	2,417	58,822	1,957
Current liabilities	**127,059**	**10,968**	**96,812**	**10,906**
Outside basis differences	**0**	**2,600**	**0**	**2,600**
Unused tax losses	**74,408**	**0**	**94,398**	**0**
Total deferred taxes	**903,580**	**157,366**	**960,090**	**146,098**
Impairment losses	5,748	0	3,309	0
Offsetting	90,319	90,319	73,604	73,604
Deferred taxes, net	**807,513**	**67,047**	**883,177**	**72,494**

The outside basis differences contain deferred tax liabilities on retained earnings from subsidiaries where a distribution is planned.

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

In the fiscal year, deferred taxes of €-88,448k (prior year: €1,264k) were recognized in other comprehensive income.

Deferred tax assets are recognized for unused tax losses to the extent that it is probable on the basis of the tax planning that taxable profit will be available against which the losses can be utilized. The loss carryforwards relate to group entities in Germany, Australia, Brazil, China, Finland, France, Israel and the USA (prior year: Germany, Australia, Brazil, China, France, Israel, Spain and the USA).

The unused tax losses for which no deferred taxes were recognized amount to €432,158k (prior year: €330,323k). Thereof, an amount of €1,912k (prior year: €3,495k) is available for offsetting for more than five years while an amount of €430,246k (prior year: €326, 828k) does not expire at all. 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 taxable profit will be available in the future. The loss carryforwards relate to group entities in the following countries:

	30 Sep 21	30 Sep 20
	€ k	€ k
Germany	361,814	244,800
Brazil	2,802	5,622
France	47,645	57,070
Japan	1,912	3,495
Singapore	1,070	1,982
South Africa	14,757	14,931
Hungary	2,077	2,046
Other	81	377
Unrecognized unused tax losses	**432,158**	**330,323**

Consolidation measures gave rise to deferred tax assets of €62,903k (prior year: €43,278k) and deferred tax liabilities of €53,740k (prior year: €61,475k).

In the reporting period, the tax rate of the parent company Carl Zeiss AG of 28.78% (prior year: 28.78%) was used as the tax rate applicable for the reconciliation of the expected income tax expense of €415,121k (prior year: €253,618k), based on earnings before taxes, to the current income tax expense of €395,298k (prior year: €265,517k).

The tax reconciliation statement is presented in the table below:

	2020/21	2019/20
	€ k	€ k
Earnings before taxes (EBT)	1,442,395	881,229
Expected income tax expense (= 28.78% x EBT; prior year: = 28.78% x EBT)	**415,121**	**253,618**
Differences from diverging tax rates	-26,838	-13,986
Effects of changes in tax rates	1,020	2,014
Effects of non-deductible expenses	17,334	14,354
Effects of tax-free income	-2,614	-5,549
Effects relating to other periods	8,977	21,568
Permanent effects	-11,722	-5,110
Other	-5,980	-1,392
Current income tax expense	**395,298**	**265,517**

NOTES TO THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

12 Intangible assets

	Patents, industrial rights, licenses, software	Goodwill	Development costs	Other intangible assets and advances	**Total**
	€ k	€ k	€ k	€ k	€ k
Cost					
1 October 2019	**537,320**	**1,389,235**	**336,952**	**259,698**	**2,523,205**
Change in the basis of consolidation	366	4,294	8,246	241	13,147
Additions	8,792	0	26,720	13,010	48,522
Disposals	5,827	0	0	112	5,939
Reclassifications	2,421	0	1,371	-4,295	-503
Currency translation	-7,416	-23,755	-11,316	-4,404	-46,891
30 September 2020	**535,656**	**1,369,774**	**361,973**	**264,138**	**2,531,541**
Amortization/impairment					
1 October 2019	**420,215**	**95,694**	**200,724**	**143,477**	**860,110**
Change in the basis of consolidation	3	0	0	0	3
Additions	36,862	0	25,852	19,038	81,752
Disposals	5,774	0	0	57	5,831
Reclassifications	461	0	0	-918	-457
Currency translation	-6,763	-3,073	-4,032	-3,377	-17,245
30 September 2020	**445,004**	**92,621**	**222,544**	**158,163**	**918,332**
Carrying amounts as of 30 September 2020	**90,652**	**1,277,153**	**139,429**	**105,975**	**1,613,209**

	Patents, industrial rights, licenses, software	Goodwill	Development costs	Other intangible assets and advances	**Total**
Cost					
1 October 2020	**535,656**	**1,369,774**	**361,973**	**264,138**	**2,531,541**
Change in the basis of consolidation	1,531	4,313	0	1,826	7,670
Additions	9,713	0	38,065	13,480	61,258
Disposals	2,590	0	0	1,632	4,222
Reclassifications	2,749	0	0	-2,749	0
Currency translation	1,477	3,843	1,875	789	7,984
30 September 2021	**548,536**	**1,377,930**	**401,913**	**275,852**	**2,604,231**
Amortization/impairment					
1 October 2020	**445,004**	**92,621**	**222,544**	**158,163**	**918,332**
Change in the basis of consolidation	8	0	0	0	8
Additions	29,928	0	24,596	17,513	72,037
Disposals	2,542	0	0	221	2,763
Reclassifications	0	0	0	0	0
Currency translation	1,301	427	1,141	552	3,421
30 September 2021	**473,699**	**93,048**	**248,281**	**176,007**	**991,035**
Carrying amounts as of 30 September 2021	**74,837**	**1,284,882**	**153,632**	**99,845**	**1,613,196**

The goodwill amounting to €1,284,882k (prior year: €1,277,153k) is tested for impairment annually at the level of the cash-generating units.

The cash flows referred to in the impairment test are generally determined on the basis of detailed plans with a planning horizon of 3 years. The detailed planning phase was extended to 5 years for the Industrial Solutions and Vision Care strategic business units, as the detailed planning phase of 3 years was not sufficient to derive the sustainable cash flow based on the development of business. For the following fiscal years, the cash flows of the last detailed planning year are rolled forward with a growth rate of 1.0% (prior year: 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, an increase in the discount rate by 1 percentage point and a decrease in the long-term growth rate by half a percentage point were simulated. When both adjustments are combined, this simulation only indicates an impairment loss of €26.4m for the Industrial Quality Solutions strategic business unit. For the other strategic business units, no sensitivity of parameters (individually or in combination) classified as probable would result in a need to recognize an impairment loss.

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

	30 Sep 21		30 Sep 20	
	Carrying amounts	WACC (after tax)	Carrying amounts	WACC (after tax)
	€ k	%	€ k	%
» Semiconductor Mask Solutions	45,768	9.6	42,479	9.5
Semiconductor Manufacturing Technology	**45,768**		**42,479**	
» Industrial Quality Solutions	555,435	8.4	553,935	8.7
» Research Microscopy Solutions	48,026	8.7	47,654	9.0
Industrial Quality & Research	**603,461**		**601,589**	
» Ophthalmic Devices	298,752	6.7	296,517	7.7
» Microsurgery	3,951	6.7	4,013	7.7
Medical Technology	**302,703**		**300,530**	
» Vision Care	332,950	6.0	332,555	6.6
Consumer Markets	**332,950**		**332,555**	
Total	**1,284,882**		**1,277,153**	

The changes in the cash-generating units result from foreign currency translation in accordance with IAS 21.47 and from business combinations.

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

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 and advances	Right-of-use assets	**Total**
	€ k	€ k	€ k	€ k	€ k	€ k
Cost						
1 October 2019	**850,162**	**1,009,925**	**1,107,247**	**232,220**	**269,672**	**3,469,226**
Change in the basis of consolidation	11	17	178	0	578	784
Additions	59,985	51,859	88,459	209,878	73,928	484,109
Disposals	24,105	23,029	40,149	4,076	19,816	111,175
Reclassifications	60,077	47,327	32,164	-139,065	0	503
Currency translation	-13,701	-23,485	-17,994	-5,090	-14,994	-75,264
30 September 2020	**932,429**	**1,062,614**	**1,169,905**	**293,867**	**309,368**	**3,768,183**
Depreciation/impairment						
1 October 2019	**404,933**	**696,109**	**853,964**	**0**	**47,791**	**2,002,797**
Change in the basis of consolidation	2	9	138	0	0	149
Additions	41,225	76,582	83,146	0	55,176	256,129
Disposals	18,526	19,519	25,971	0	12,935	76,951
Reclassifications	-19	-257	733	0	0	457
Currency translation	-7,398	-14,018	-11,454	0	-4,351	-37,221
30 September 2020	**420,217**	**738,906**	**900,556**	**0**	**85,681**	**2,145,360**
Carrying amounts as of 30 September 2020	**512,212**	**323,708**	**269,349**	**293,867**	**223,687**	**1,622,823**
Cost						
1 October 2020	**932,429**	**1,062,614**	**1,169,905**	**293,867**	**309,368**	**3,768,183**
Change in the basis of consolidation	3,972	1,368	770	0	0	6,110
Additions	68,982	32,339	77,128	383,354	194,147	755,950
Disposals	151,452	65,400	44,345	8,625	55,768	325,590
Reclassifications	105,253	102,787	30,411	-238,451	0	0
Currency translation	5,221	11,569	7,403	3,708	6,749	34,650
30 September 2021	**964,405**	**1,145,277**	**1,241,272**	**433,853**	**454,496**	**4,239,303**
Depreciation/impairment						
1 October 2020	**420,217**	**738,906**	**900,556**	**0**	**85,681**	**2,145,360**
Change in the basis of consolidation	7	0	570	0	0	577
Additions	35,983	74,363	86,036	0	66,449	262,831
Disposals	123,845	58,416	33,443	0	35,713	251,417
Reclassifications	-5	11	-6	0	0	0
Currency translation	1,391	5,767	4,233	0	1,733	13,124
30 September 2021	**333,748**	**760,631**	**957,946**	**0**	**118,150**	**2,170,475**
Carrying amounts as of 30 September 2021	**630,657**	**384,646**	**283,326**	**433,853**	**336,346**	**2,068,828**

Property, plant and equipment with a net carrying amount of €52,112k (prior year: €53,436k) 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 €338,994k as of the reporting date (prior year: €338,114k).

The column "Land and buildings including buildings on third-party land" includes a rented property that qualifies as investment property in accordance with IAS 40. This is not presented separately in the statement of financial position for reasons of clarity and materiality. As of the reporting date, the investment property has a carrying amount of €28,463k (prior year: €27,636k) and a fair value of €26,618k (prior year: €26,499k).

14 Other financial assets

	30 Sep 21		30 Sep 20	
		thereof due in more than 1 year		thereof due in more than 1 year
	€ k	€ k	€ k	€ k
Shares in affiliates	86,740	86,740	77,580	77,580
Investments	22,267	22,267	18,576	18,576
Loans	42,890	40,551	49,012	45,427
Securities	729,932	393,922	629,064	318,910
Derivatives	3,434	36	15,366	7,213
Sundry other financial assets	164,763	94,803	392,951	74,279
	1,050,026	**638,319**	**1,182,549**	**541,985**

The shares in affiliates relate to non-consolidated subsidiaries. In the reporting period, shares amounting of €18.9m in arivis AG, Rostock, were included for the first time after the Group acquired a majority shareholding. Subsidiaries that were consolidated for the first time in the reporting year are no longer included in this item. In addition, there was a capital reduction at a non-consolidated subsidiary.

Loans cover default risks according to the expected credit loss model of €0,8m (prior year: €6.1m). The current macroeconomic uncertainties relating to the COVID-19 pandemic were taken into account in the calculation.

The sundry other financial assets mainly consist of the assets of entities within and outside Germany in connection with financing or securing short-term obligations toward employees as well as cash pool receivables from non-consolidated subsidiaries.

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 21	30 Sep 20
	€ k	€ k
Materials and supplies	553,153	507,816
Work in progress	712,461	658,968
Finished goods and merchandise	668,659	538,299
Advances	41,711	31,169
	1,975,984	**1,736,252**

The carrying amount of inventories recognized at net realizable value comes to €765,967k (prior year: €691,694k). The carrying amounts contain write-downs of €235,033k (prior year: €230,890k).

The write-downs recorded on inventories, which are recognized under cost of sales in the consolidated income statement, amounted to €61,724k in the reporting period (prior year: €106,152k). Write-downs of €12,086k (prior year: €17,730k) were reversed through profit or loss.

Cost of materials amounted to €2,358m in the fiscal year (prior year: €2,088m).

17 Cash and cash equivalents

	30 Sep 21	30 Sep 20
	€ k	€ k
Cash funds	1,510,787	696,410
Securities due in less than 90 days of their acquisition date	55,083	69,429
	1,565,870	**765,839**

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 -0.7% and 0.0% (prior year: -0.5% 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. A dividend of €30,000k was distributed in the reporting period (prior year: €75,000k).

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
» financial assets at fair value through other comprehensive income

Non-controlling interests contain the proportionate share of non-controlling interests in equity.

The development of consolidated equity is shown in the consolidated statement of changes in equity.

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 €114,820k in the reporting period (prior year: €97,599k).

With defined benefit plans, the entity's obligation consists of fulfilling the commitments made to current and former employees and their surviving dependents. 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 dependents' 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 dependents' 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	
	30 Sep 21	30 Sep 20	**30 Sep 21**	30 Sep 20
	%	%	%	%
Interest rate	1.35	1.05	0.37 to 8.00	0.43 to 7.25
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 5.73	0.00 to 3.29

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 21
	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	2,795,807	1,724,043	0	1,071,764
Other countries	326,128	267,598	0	58,530
Carrying amount	**3,121,935**	**1,991,641**	**0**	**1,130,294**
» thereof pension provisions				1,141,994
» thereof other financial assets				11,700

				30 Sep 20
	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	2,962,439	1,441,721	0	1,520,718
Other countries	338,835	257,621	0	81,214
Carrying amount	**3,301,274**	**1,699,342**	**0**	**1,601,932**
» thereof pension provisions				1,605,834
» thereof other financial assets				3,902

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

	30 Sep 21	30 Sep 20
	€ k	€ k
Present value of funded pension obligations	2,325,634	2,482,312
Plan assets	1,991,641	1,699,342
Funded status (net)	**333,993**	**782,970**
Present value of unfunded pension obligations	**796,301**	**818,962**
Adjustment on account of asset ceiling	0	0
Carrying amount	**1,130,294**	**1,601,932**
» thereof pension provisions	1,141,994	1,605,834
» thereof other financial assets	11,700	3,902

Pension provisions developed as follows:

	2020/21	2019/20
	€ k	€ k
1 October	**1,605,834**	**1,569,813**
Recognized through profit or loss		
Service cost	102,048	102,833
Net interest cost	17,165	16,353
Not recognized through profit and loss		
Benefits paid	-76,931	-53,492
Remeasurements	-421,478	6,365
Employer contributions	-93,874	-32,982
Exchange differences on translation	405	-4,309
Change in the basis of consolidation	825	0
Other	8,000	1,253
30 September	**1,141,994**	**1,605,834**

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 period:

	2020/21	2019/20
	€ k	€ k
1 October	**3,301,274**	**3,292,485**
Change in the basis of consolidation	825	0
Service cost	102,048	102,833
Interest cost	36,892	36,768
Benefits paid	-90,282	-91,573
Remeasurements		
» Actuarial gains/losses as a result of changes in demographic assumptions	-1,272	-1,398
» Actuarial gains/losses as a result of changes in financial assumptions	-214,912	-13,179
» Actuarial gains/losses as a result of experience adjustments	-20,810	-6,907
Exchange differences on translation	8,141	-18,606
Other	31	851
30 September	**3,121,935**	**3,301,274**

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

	30 Sep 21	30 Sep 20
	€ k	€ k
Active employees	1,582,965	1,697,208
Former employees with vested rights	279,459	303,140
Pensioners	1,259,511	1,300,926
	3,121,935	**3,301,274**

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

	2020/21	2019/20
	€ k	€ k
1 October	**1,699,342**	**1,726,096**
Change in the basis of consolidation	0	0
Interest income	19,727	20,415
Remeasurements	184,484	-27,849
Employer contributions	93,874	32,982
Employee contributions	355	357
Withdrawals for benefit payments	-13,351	-38,081
Exchange differences on translation	7,736	-14,297
Other	-526	-281
30 September	**1,991,641**	**1,699,342**

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 €3,127k.

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 21	30 Sep 20
	€ k	€ k
Equities and equity funds	685,964	581,266
Bonds and bond funds	757,356	722,485
Real estate and real estate funds	203,319	202,987
Cash and cash equivalents	151,737	72,029
Other assets	193,265	120,575
	1,991,641	**1,699,342**

Price quotations for the equity and equity funds as well as bonds and bond funds are almost exclusively in an active market; for the other investments, there are no market quotations.

Plan assets (real estate and real estate funds) contain owner-occupied property of €194,745k (prior year: €194,787k).

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

		30 Sep 21
Change in the present value of the defined benefit obligations (DBO)	Increase by 0.5%	Decrease by 0.5%
	€ k	€ k
Interest rate	-294,354	339,255
Future salary increases	21,004	-19,225
Future pension increases	126,258	-116,585

A 1-year increase in life expectancy would lead to an increase of €159,998k 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:

	Estimated benefit payments
Fiscal Year	€ k
2021/22	90,541
2022/23	91,690
2023/24	93,637
2024/25	95,403
2025/26	96,786
2026/27 up to and including 2030/31	509,260

The average weighted duration of the pension plans is about 21 years in Germany, about 13 years in the USA and about 17 years in the UK.

20 Other provisions

	30 Sep 21		30 Sep 20	
		thereof due within 1 year		thereof due within 1 year
	€ k	€ k	€ k	€ k
Provisions for personnel-related obligations	30,844	9,232	30,113	8,025
Provisions for sales-related obligations	143,320	113,011	152,247	109,561
Sundry other provisions	93,830	52,493	92,096	54,746
	267,994	**174,736**	**274,456**	**172,332**

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. Sundry other provisions include provisions for environmental risks, risks of legal costs and restructuring.

	1 Oct 20	Utilization	Reversal	Additions	Unwinding of the discount and effects from changes in the discount factor	Exchange differences	**30 Sep 21**
	€ k	€ k	€ k	€ k	€ k	€ k	€ k
Provisions for personnel-related obligations	30,113	-11,739	-3,154	15,426	53	145	30,844
Provisions for sales-related obligations	152,247	-36,811	-29,804	55,325	0	2,362	143,320
Sundry other provisions	92,096	-19,598	-4,760	25,546	0	541	93,830
	274,456	**-68,148**	**-37,718**	**96,297**	**53**	**3,048**	**267,994**

21 Accruals

	30 Sep 21	30 Sep 20
	€ k	€ k
Accruals for personnel-related obligations	542,118	414,781
Accruals for sales-related obligations	249,234	193,721
Outstanding invoices	251,861	274,254
Other accruals	22,432	38,991
	1,065,645	**921,747**

Accruals for personnel-related obligations are primarily attributable to special payments, accrued vacation, accrued overtime as well as other personnel-related obligations. Accruals for sales-related obligations mainly relate to bonus and commission payments.

22 Financial liabilities

			30 Sep 21			30 Sep 20
		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	51,840	21,012	0	123,302	83,160	0
Derivatives	24,348	24,348	0	1,661	1,661	0
Lease liabilities	362,284	64,265	132,921	229,837	53,382	76,619
Other financial liabilities	466,113	254,433	155,448	293,341	171,478	57,796
	904,585	**364,058**	**288,369**	**648,193**	**309,732**	**134,415**

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. Following an unscheduled repayment of €55m in fiscal year 2019/20, a scheduled repayment of another €66.5m was made in the current fiscal year.

The promissory notes still outstanding as of the reporting date of €27.5m bear interest at a fixed rate and have a contractual term of 10 years.

An annuity loan of €45m was borrowed from Kreditanstalt für Wiederaufbau under 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 €1,417k as of the reporting date.

Lease liabilities

Lease liabilities mainly stem from lease agreements for office space, various non-current asset items and office equipment, which ZEISS accounts for as the lessee in accordance with IFRS 16 *Leases*. They are measured at the present value of the outstanding lease payments.

Other financial liabilities

Dividends payable
Dividends of €168m are payable to ASML (prior year: €128m).

Purchase price liabilities
Purchase price liabilities come to €99m (prior year: €123m) and comprise liabilities from contingent components of the purchase price for the acquisition of shares in Carl Zeiss Meditec Cataract Technology, Inc., Reno (USA), of €79m (prior year: €78m), the acquisition of InfiniteVision Optics S.A.S., Strasbourg (France), of €10m (prior year: €10m) and the acquisition of Carl Zeiss CIS Vertriebs GmbH (formerly Carl Zeiss OPTEC Vertriebs GmbH), Düsseldorf, of €2m (prior year: €24m). An additional €8m (prior year: €11m) relate to purchase price liabilities from the acquisition of Photono Oy, Helsinki (Finland).

Loans payable
Under a framework loan agreement with Carl Zeiss SMT GmbH, Oberkochen, dated 22 September 2021, ASML agreed to finance Carl Zeiss SMT GmbH's investments in property, plant and equipment under certain circumstances and conditions if requested by Carl Zeiss SMT GmbH by drawing on a credit facility to be agreed annually.

On 29 September 2021, Carl Zeiss SMT GmbH drew on the credit facility under this framework loan agreement, which has a nominal volume of €124.4m and a term of 10 years until 29 September 2031. The loan is subject to a variable interest rate within a range and is repayable in equal annual installments after an initial 3-year repayment-free period. The agreement includes an option to repay the loan that can be exercised early at any time.

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 2016-D series with a term of 5 years and a nominal volume totaling €3,548k.

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 revenue performance.

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 with a term of 5 years and a nominal volume totaling €3,681k.

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, respectively. 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.

Miscellaneous financial liabilities
Miscellaneous financial liabilities include cash pool liabilities to non-consolidated subsidiaries, a donation pledge to the German museum ("Deutsches Museum") and sundry financial liabilities.

For more information on the contractually agreed undiscounted cash outflows from the non-derivative financial liabilities and derivative financial instruments, please refer to note 24 Financial instruments and risk management.

23 Other non-financial liabilities

	30 Sep 21		30 Sep 20	
		thereof due within 1 year		thereof due within 1 year
	€ k	€ k	€ k	€ k
Contract liabilities				
» Advances received on account of orders	668,136	668,136	525,026	525,026
» Deferred income	189,636	154,692	157,140	128,843
» Other contract liabilities	28,504	28,504	29,334	29,334
Other liabilities	108,370	98,020	106,024	101,402
	994,646	**949,352**	**817,524**	**784,605**

Other liabilities essentially contain liabilities from taxes other than income taxes as well as withheld wage tax.

24 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. 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. To reduce the credit risk with regard to trade receivables, invoices and corresponding credit notes are reported at the net amount in the statement of financial position provided netting is legally permissible and the receivable is intended to be settled on a net basis. Impairment losses are recognized for any credit risks associated with the financial assets.

The table below provides information on the remaining credit risk of trade and other receivables:

	30 Sep 21	30 Sep 20
	€ k	€ k
Trade and other receivables (gross)	**1,426,180**	**1,261,462**
Impairment losses	44,277	52,054
Allowance for exchange differences	174	1,066
Trade and other receivables (net)	**1,382,077**	**1,210,474**
» thereof due in more than 1 year	51,790	57,693

Trade and other receivables include finance lease receivables of €26,955k (prior year: €18,365k).

Identifiable credit risks are accounted for by specific allowances on trade and other receivables. Impairment losses of €30,293k (prior year: €32,210k) are recognized for credit risks.

Bad debt allowances on trade receivables (credit-impaired and non-credit-impaired) developed as follows:

	2020/21	2019/20
	€ k	€ k
1 October	**52,054**	**42,459**
Utilization	-9,490	-3,523
Reversal	-17,348	-5,678
Additions	18,402	21,359
Exchange rate effects	659	-2,563
30 September	**44,277**	**52,054**

The table below presents the gross carrying amounts and average default rates for trade and other receivables according to the expected credit loss model:

	30 Sep 21		30 Sep 20	
	€ k	in %	€ k	in %
not past due	1,125,296	0.5	910,098	0.7
up to 30 days past due	174,140	1.3	158,743	3.2
31 to 60 days past due	38,134	4.2	72,584	5.5
61 to 90 days past due	17,347	6.0	19,722	6.6
more than 90 days past due	71,263	7.6	100,315	10.2

Various macroeconomic scenarios were taken into account when calculating expected losses in order to reflect the credit risk expected by the market compared to past years. Adjusting the forward-looking statements to the current environment caused the average default rates to decrease by between 0.3 and 3.9 percentage points.

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

	30 Sep 21	30 Sep 20
	€ k	€ k
Trade and other receivables (before offsetting)	1,476,515	1,289,727
Offsetting of credit notes issued	94,438	79,253
Remaining credit risk	**1,382,077**	**1,210,474**

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

	30 Sep 21	30 Sep 20
	€ k	€ k
Derivatives with a positive market value	3,434	15,366
Amount available for offsetting in the event of insolvency	3,380	1,317
Remaining credit risk	**54**	**14,049**

Credit risk in connection with securities is mitigated by selecting counterparties with good credit ratings and by limiting the amounts invested. The Group invests exclusively in securities of investment grade issuers.

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 22 Financial liabilities.

To reduce the liquidity risk with regard to trade payables, invoices and corresponding credit notes issued are reported at the net amount in the statement of financial position provided netting is legally permissible and the liability is intended to be settled on a net basis.

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

	30 Sep 21	30 Sep 20
	€ k	€ k
Trade payables (before offsetting)	544,081	434,706
Offsetting of credits notes issued	13,310	15,088
Remaining liquidity risk	**530,771**	**419,618**

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 21	30 Sep 20
	€ k	€ k
Derivatives with a negative market value	24,348	1,661
Amount available for offsetting in the event of insolvency	3,380	1,317
Remaining liquidity risk	20,968	344

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 give the ZEISS Group adequate flexibility to cover the Group’s refinancing needs. The ZEISS Group is not subject to any concentration risk thanks to the diverse nature of its financing sources and its cash and cash equivalents. The payment terms of the trade payables vary depending on the customary conditions in the respective countries and industries and usually include short-term payment terms.

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 21**
	€ k	€ k	€ k	€ k
Trade payables	530,771	0	0	**530,771**
Financial liabilities				
» Liabilities to banks	21,240	32,896	0	**54,136**
» Loans	0	0	0	**0**
» Lease liabilities	65,171	167,011	135,414	**367,596**
» Other financial liabilities	254,740	56,233	155,448	**466,421**
Guarantees	1,120	0	0	**1,120**

	Undiscounted cash outflows			
	due within 1 year	due in 1 to 5 years	due in more than 5 years	Total 30 Sep 20
	€ k	€ k	€ k	€ k
Trade payables	419,618	0	0	**419,618**
Financial liabilities				
» Liabilities to banks	83,887	43,294	0	**127,181**
» Loans	52	0	0	**52**
» Lease liabilities	53,494	113,811	97,812	**265,117**
» Other financial liabilities	172,853	65,140	58,411	**296,404**
Guarantees	5,875	0	0	**5,875**

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 21**
	€ k	€ k	€ k	€ k
Derivative financial liabilities settled on a gross basis				
» Cash outflows	633,138	0	0	**633,138**
» Cash inflows	601,826	0	0	**601,826**

	Undiscounted cash outflows			
	due within 1 year	due in 1 to 5 years	due in more than 5 years	Total 30 Sep 20
	€ k	€ k	€ k	€ k
Derivative financial liabilities settled on a gross basis				
» Cash outflows	285,704	0	0	**285,704**
» Cash inflows	283,749	0	0	**283,749**

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 Chinese renminbi, the pound sterling, the Japanese yen, the South Korean won and the US dollar.

The average rates of the forward exchange contracts for the main currencies break down as follows:

	€1 =	2020/21	2019/20
China	CNY	7.82	7.85
UK	GBP	0.88	0.89
Japan	JPY	122.35	123.31
South Korea	KRW	1,329.29	1,318.79
USA	USD	1.14	1.14

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.

Derivatives are accounted for as stand-alone derivatives. The nominal amounts and market values of the derivative financial instruments can be found in the following table:

	30 Sep 21		30 Sep 20	
	Nominal amount	Market value	Nominal amount	Market value
	€ k	€ k	€ k	€ k
Derivatives not used for hedge accounting				
» Derivatives with a positive market value	272,147	3,434	635,139	15,366
» Derivatives with a negative market value	599,626	24,348	279,478	1,661

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 amounted to €3.0m (prior year: €5.4m).

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 variable-rate and fixed-rate instruments in this context.

Cash flow risk: A change of +/- 50 base points for the variable rate financial instruments would have an effect of +/- €7.9m (prior year: +/- €6.7m) on profit or loss.

Fair value risk: Assuming a change of +/- 50 base points, the fixed-rate securities allocated to the "fair value through other comprehensive income" (FVOCI) measurement category would have an effect of -/+ €1.2m on equity (prior year: -/+ €1.1m). Assuming a change of +/- 50 base points, the fixed-rate securities allocated to the "fair value through profit or loss" (FVPL) category would have an effect of -/+ €1.2m (prior year: -/+ €2.4m) on profit or loss.

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 of the financial instruments accounted for by measurement category:

	Categories of IFRS 9	30 Sep 21 Carrying amount € k	30 Sep 20 Carrying amount € k
Trade and other receivables			
» Trade receivables	AC	1,355,122	1,192,109
» Other assets	n.a.*	26,955	18,365
Other financial assets			
» Shares in affiliates	n.a.*	86,740	77,580
» Investments	FVPL	5,138	4,164
	FVOCI	6,688	4,083
	n.a.*	10,441	10,329
» Loans	AC	42,890	49,012
» Securities	AC	215,996	260,351
	FVPL	369,894	223,494
	FVOCI	144,042	145,219
» Derivatives	FVPL	3,434	15,366
» Sundry other financial assets	AC	164,763	392,951
Cash and cash equivalents	AC	1,565,870	765,839
Financial assets		**3,997,973**	**3,158,862**
Trade payables	FLAC	530,771	419,618
Other financial liabilities			
» Liabilities to banks	FLAC	51,840	123,302
» Loans	FLAC	0	52
» Derivatives	FVPL	24,348	1,661
» Lease liabilities	n.a.*	362,284	229,837
» Other financial liabilities	FLAC	377,714	205,514
	FVPL	88,399	87,827
Financial liabilities		**1,435,356**	**1,067,811**
Aggregated by measurement category in accordance with IFRS 9			
Financial assets at amortized cost	AC	3,344,641	2,660,262
Financial assets at fair value through other comprehensive income	FVOCI	150,730	149,302
Financial assets at fair value through profit or loss	FVPL	378,466	243,024
Financial liabilities at amortized cost	FLAC	960,325	748,486
Financial liabilities at fair value through profit or loss	FVPL	112,747	89,488

* n.a.: Not allocable to any of the measurement categories pursuant to IFRS 9

The carrying amounts presented for the financial instruments measured at (amortized) cost approximate their fair values. The following table shows the fair values and carrying amounts of the financial instruments that were measured at (amortized) cost but the carrying amounts do not approximate their fair values:

		30 Sep 21		30 Sep 20	
		Carrying amount	Fair value	Carrying amount	Fair value
	Categories of IFRS 9	€ k	€ k	€ k	€ k
Liabilities to banks	FLAC	51,840	55,129	123,302	127,722

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 (for example 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 21**
	Level 1	Level 2	Level 3	Total
	€ k	€ k	€ k	€ k
Investments	0	0	11,826	11,826
Securities	498,761	15,175	0	513,936
Derivatives	0	3,434	0	3,434
Financial assets	**498,761**	**18,609**	**11,826**	**529,196**
Liabilities to banks	0	55,129	0	55,129
Derivatives	0	24,348	0	24,348
Other financial liabilities	0	0	88,399	88,399
Financial liabilities	**0**	**79,477**	**88,399**	**167,876**

Fair value				30 Sep 20
	Level 1	Level 2	Level 3	Total
	€ k	€ k	€ k	€ k
Investments	0	0	8,246	8,246
Securities	359,417	9,296	0	368,713
Derivatives	0	15,366	0	15,366
Financial assets	**359,417**	**24,662**	**8,246**	**392,325**
Liabilities to banks	0	127,722	0	127,722
Derivatives	0	1,661	0	1,661
Other financial liabilities	0	0	87,827	87,827
Financial liabilities	**0**	**129,383**	**87,827**	**217,210**

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

			2020/21
	Investments	Contingent purchase price obligations	Total
	€ k	€ k	€ k
1 October 2020	**8,246**	**87,827**	**96,073**
Additions	3,771	-	3,771
Changes in fair value recognized through profit or loss	39	8,079	8,118
Changes in fair value recognized in other comprehensive income	-328	-	-328
Payment of contingent purchase price obligations	-	-8,509	-8,509
Exchange rate effects	98	1,002	1,100
30 September 2021	**11,826**	**88,399**	**100,225**

			2019/20
	Investments	Contingent purchase price obligations	Total
	€ k	€ k	€ k
1 October 2019	**8,393**	**109,009**	**117,402**
Additions	1,018	9,673	10,691
Changes in fair value recognized through profit or loss	-75	2,500	2,425
Changes in fair value recognized in other comprehensive income	-770	-	-770
Payment of contingent purchase price obligations	-	-25,227	-25,227
Exchange rate effects	-320	-8,128	-8,448
30 September 2020	**8,246**	**87,827**	**96,073**

The financial assets allocated to Level 3 are investments belonging to both the measurement category “at fair value through profit or loss” (FVTPL) and the measurement category “at fair value through other comprehensive income” (FVTOCI).

Level 3 investments allocated to the measurement category “fair value through other comprehensive income” (FVOCI), which already existed at the start of the fiscal year, mainly comprise the 17.7% shareholding in MicroOptx Inc., Maple Grove (USA) €3,667k (prior year: €3,961k). New investments acquired in the current fiscal year comprise the 4.4% shareholding in OcuTerra Therapeutics, Inc., Boston (USA), and the 20.4% shareholding in Audioptics Medical Inc., Halifax (Canada). Due to the acquisition of both entities in the current fiscal year, the carrying amount as of 30 September 2021 equals the acquisition cost of €2,094k for OcuTerra Therapeutics, Inc. and €741k for Audioptics Medical Inc. Neither of the entities distributed dividends.

An increase or decrease in the interest rate by half a percentage point would result in a decrease or increase in the overall carrying amount of the investment by a low single-digit million figure.

The financial liabilities allocated to Level 3 are contingent purchase price obligations from the acquisition of Carl Zeiss Meditec Cataract Technology, Inc., Reno (USA), and from the purchase of InfiniteVision Optics S.A.S.,Strasbourg (France), in an asset deal. The change in fair value recognized through profit or loss includes the annual unwinding of the discount on both liabilities and for Carl Zeiss Meditec Cataract Technology Inc., Reno (USA), also the adjustment of cost of capital to measure the liability. Both effects were recognized in interest expenses. Furthermore, the other financial result contains the expenses from the remeasurement of the contingent purchase price obligation in connection with Carl Zeiss Meditec Cataract Technology Inc., Reno (USA). The fair value of the contingent consideration is determined based on the criteria agreed in the purchase agreement and the expected probable target achievement and is discounted at market interest rate. An increase or decrease in the interest rate by half a percentage point would result in a decrease or increase in the contingent consideration by a low single-digit million figure. A delay in the target achievement linked to milestones and simultaneous decrease in the forecast revenue by 15% would result in a decrease in the obligations by €19m.

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 IFRS 9 *Financial Instruments*:

				2020/21
		thereof from interest	thereof from subsequent measurement	thereof from disposals
	€ k	€ k	€ k	€ k
Financial assets at amortized cost	8,290	6,826	1,478	-14
Financial assets at fair value through other comprehensive income	1,972	2,453	-334	-147
Financial assets and liabilities at fair value through profit or loss	-34,814	-6,744	-23,512	-4,558
Financial liabilities measured at amortized cost	-4,345	-1,191	-3,154	0

				2019/20
		thereof from interest	thereof from subsequent measurement	thereof from disposals
	€ k	€ k	€ k	€ k
Financial assets at amortized cost	-38,804	7,272	-46,062	-14
Financial assets at fair value through other comprehensive income	2,257	2,730	-460	-13
Financial assets and liabilities at fair value through profit or loss	12,093	-25,543	27,607	10,029
Financial liabilities measured at amortized cost	-11,717	-6,928	-4,789	0

The “Financial assets at amortized cost” category contains the interest and currency result from the measurement of receivables and loans together with securities allocated to this category. The “Financial assets at fair value through other comprehensive income” category mainly results from the measurement of securities and from the reversal of provisions from financial assets in equity. The “Financial assets and liabilities at fair value through profit or loss” category contains the gains or losses from the measurement of derivatives and financial liabilities. The interest and currency result from the measurement of liabilities is recognized in the “Financial liabilities at amortized cost” category.

OTHER NOTES

25 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 changes in financial assets are presented on a net basis as defined by IAS 7.22. 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. Of the non-cash changes from additions to lease liabilities, €32,206k (prior year: €0k) relates to sale and leaseback transactions.

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

	1 Oct 20	Cash changes	Non-cash changes			**30 Sep 21**
			from currency translation	from changes in the basis of consolidation	from additions and unwinding of discounts	
	€ k	€ k	€ k	€ k	€ k	€ k
Liabilities to banks	123,302	-72,308	846	0	0	51,840
Lease liabilities	229,837	-56,200	5,282	0	183,365	362,284
Other loans	0	124,400	0	0	0	124,400
	353,139	**-4,108**	**6,128**	**0**	**183,365**	**538,524**

	1 Oct 19	Cash changes	Non-cash changes			30 Sep 20
			from currency translation	from changes in the basis of consolidation	from additions and unwinding of discounts	
	€ k	€ k	€ k	€ k	€ k	€ k
Liabilities to banks	191,923	-62,559	-6,094	32	0	123,302
Lease liabilities	224,518	-51,216	-11,089	578	67,046	229,837
	416,441	**-113,775**	**-17,183**	**610**	**67,046**	**353,139**

In addition to the cash and cash equivalents of €1,565,870k (prior year: €765,839k) recognized in the statement of financial position and statement of cash flows, the Group can fall back on the following funds not yet disbursed:

As of 16 July 2014, Carl Zeiss AG concluded a revolving credit facility with a volume of €500m, a term of 5 years and an option of extending on 2 occasions with a syndicate of banks. Under an amendment agreement dated 2 August 2019, the revolving credit facility was refinanced before maturing with an unchanged credit facility of €500m and a new term of a further 5 years. The second extension option was exercised in fiscal year 2020/21, so that the extended maturity date is 2 August 2026. As in the prior year, the revolving credit facility serves as a strategic liquidity reserve for the ZEISS Group and was not utilized in the reporting period.

On 30 September 2021, Carl Zeiss AG concluded an investment loan agreement for €220m with the European Investment Bank. The loan can be paid out in up to three installments and may be subject to both variable and fixed interest rates depending on the terms agreed for each installment. The loan had not yet been utilized in the reporting year.

26 Contingent liabilities and assets

	30 Sep 21	30 Sep 20
	€ k	€ k
Liabilities from guarantees	1,120	5,875
Other contingent liabilities	1,982	1,114

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

27 Average headcount for the year and personnel expenses

	2020/21	2019/20
	Number	Number
Germany	13,858	13,135
EMEA (without Germany)	4,624	4,547
Americas	7,878	6,866
APAC	7,381	6,537
	33,741	**31,085**
Trainees	464	473
Total	**34,205**	**31,558**

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

Personnel expenses break down as follows:

	2020/21	2019/20
	€ k	€ k
Wages and salaries	2,136,338	1,881,019
Social security	340,324	289,271
Pension costs	108,770	110,585
Total	**2,585,432**	**2,280,875**

28 Leases

ZEISS as lessee
The Group has entered into lease agreements for office space, various non-current asset items 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.

The carrying amounts of the right-of-use assets are included in property, plant and equipment as follows:

	30 Sep 21	30 Sep 20
	€ k	€ k
Land and buildings	301,208	189,072
Technical equipment and machinery	1,555	2,426
Other equipment, furniture and fixtures	33,583	32,189

Depreciation of right-of-use assets breaks down as follows:

	2020/21	2019/20
	€ k	€ k
Land and buildings	47,108	35,211
Technical equipment and machinery	1,313	1,519
Other equipment, furniture and fixtures	18,028	18,446

Lease liabilities of €56,200k (prior year: €51,216k) were repaid in fiscal year 2020/21. Interest expenses from the unwinding of the discount on lease liabilities are presented in the financial result and amount to €5,964k (prior year: €6,848k).

The lease expenses include expenses for short-term leases of €12,173k (prior year: €10,843k) and expenses for leases of low-value assets of €10,352k (prior year: €9,640k).

In fiscal year 2020/21, cash outflows for leases totaled €84,689k (prior year: €78,547k).

Future cash outflows of €80,668k (prior year: €17k) were not included in the lease liability because it is not reasonably certain that the leases will be renewed or not terminated. Of the year-on-year increase, €60,783k results from early termination options under sale and leaseback transactions which are reasonably likely to be exercised.

The future cash outflows for leases that have not yet begun as of the reporting date amounts to €26k (prior year: €4,144k).

Income of €508k (prior year: €657k) from the sublease of right-of-use assets was also recognized.

Rental concessions due to the COVID-19 pandemic of €5k (prior year: €249k) were recognized through profit or loss.

Sale and leaseback transactions

In fiscal year 2020/21, production and administrative buildings and technical equipment were sold and then leased back under sale and leaseback agreements. These transactions resulted in a gain on disposal of €4,648k, of which €2,447k was recognized immediately. The remaining profit of €2,201k was used to reduce amortization of the right-of-use asset over the expected term of the lease agreement.

ZEISS as lessor

Operating leases

The Group has entered into lease agreements mainly for buildings and technical equipment. In connection with its product sales, the ZEISS Group offers financing models in the form of leases that are classified as operating leases based on their features.

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

	30 Sep 21	30 Sep 20
	€ k	€ k
Land and buildings	29,601	27,636
Technical equipment and machinery	7,795	713
Other equipment, furniture and fixtures	1,737	1,529

Risks from leases stem in particular from lessees failing to adhere to agreed conditions or purchase agreed quantities. In these cases, compensation for minimum purchase volumes in the event of failure to purchase or the return of the leased asset to the lessor including appropriate compensation payments for early contract termination are agreed in the contracts as protection against such risks. Further risk mitigation measures that are carried out prior to entering into a contract include customer credit checks, a feasibility appraisal of the lease and a comprehensive analysis of the customer’s realistic requirements.

Lease income came to €5,810k (prior year: €5,765k) in the fiscal year. There was no lease income relating to variable lease payments not linked to an index or interest.

Accumulated future minimum lease payments under non-cancellable operating leases amount to:

	30 Sep 21	30 Sep 20
Term to maturity	€ k	€ k
Due within year 1	6,548	5,595
Due within year 2	4,103	3,589
Due within year 3	3,890	2,886
Due within year 4	2,288	564
Due within year 5	1,380	524
Due in more than 5 years	2,802	2,985
Total minimum lease payments	**21,011**	**16,143**

Finance leases
In connection with product sales, the ZEISS Group offers financing models in the form of leases that are classified as finance leases based on their features. There are also finance leases for buildings.

See the statements under operating leases for information on the risks from finance leases.

Outstanding minimum lease payments under finance leases are as follows:

	30 Sep 21	30 Sep 20
Term to maturity	€ k	€ k
Due within year 1	7,869	7,317
Due within year 2	5,107	4,745
Due within year 3	4,716	3,352
Due within year 4	3,341	2,434
Due within year 5	2,356	1,051
Due in more than 5 years	4,244	85
Future undiscounted cash inflows	**27,633**	**18,984**
Unearned finance income	678	619
Finance lease receivables	**26,955**	**18,365**

29 Government grants

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

	2020/21	2019/20
	€ k	€ k
Research and development grants	8,497	13,781
Grants related to assets	1,673	4,497
Other grants related to expenses	8,631	13,062
	18,801	**31,340**

Other grants related to expenses include various grants in Germany and other countries as a result of the COVID-19 pandemic, which were deducted as income from cost of sales and functional costs.

30 Related party disclosures

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

Related party transactions are carried out at arm’s length.

In fiscal year 2020/21, the ZEISS Group procured goods and services from SCHOTT AG, Mainz, of €10,126k (prior year: €7,690k) and provided a negligible volume of goods and services to SCHOTT AG, Mainz. As of the reporting date, a prepayment of €4,760k had been made to SCHOTT AG, Mainz. There were no other significant outstanding balances as of the reporting date.

The table below shows the goods and services supplied to and received from non-consolidated subsidiaries as well as associates and joint ventures:

	Goods and services supplied		Goods and services received	
	2020/21	2019/20	**2020/21**	2019/20
	€ k	€ k	€ k	€ k
Non-consolidated subsidiaries	21,360	21,560	70,889	48,386
Associates and joint ventures	2,501	3,284	5,154	554
	23,861	**24,844**	**76,043**	**48,940**

The table below shows the receivables from non-consolidated subsidiaries as well as associates and joint ventures:

	Trade and other receivables		Financial receivables	
	30 Sep 21	30 Sep 20	**30 Sep 21**	30 Sep 20
	€ k	€ k	€ k	€ k
Non-consolidated subsidiaries	10,768	10,174	46,709	34,604
Associates and joint ventures	353	1,292	0	0
	11,121	**11,466**	**46,709**	**34,604**

The table below shows the liabilities to non-consolidated subsidiaries as well as associates and joint ventures:

	Trade payables and other liabilities		Financial liabilities	
	30 Sep 21	30 Sep 20	**30 Sep 21**	30 Sep 20
	€ k	€ k	€ k	€ k
Non-consolidated subsidiaries	13,536	10,531	11,337	6,513
Associates and joint ventures	201	1,025	19	368
	13,737	**11,556**	**11,356**	**6,881**

Financial receivables and financial liabilities primarily contain receivables and liabilities from cash management.

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 34 Remuneration of the Executive Board and the Supervisory Board.

31 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 German Stock Corporation Act (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).

32 Audit fees

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

	2020/21	2019/20
	€ k	€ k
Audit services	2,127	2,089
Other attestation services	183	0
Other services	820	3,103

33 Subsequent events

Under an agreement dated 7 May 2021 and effective on 8 October 2021, Carl Zeiss Inc., White Plains (USA), acquired 100% of the shares in Capture 3D, Inc., Santa Ana (USA) (Capture 3D). Capture 3D is the leading sales partner for GOM GmbH, Braunschweig, optical 3D measurement technology in the US. With the acquisition of Capture 3D, ZEISS expands its market presence in the Industrial Quality & Research segment in the US. Combining the product portfolio of ZEISS with the competence of Capture 3D will further strengthen the entities' position on the US market and open up new opportunities for ZEISS.

The provisional purchase price is currently €45m and comprises a fixed component (including an escrow amount) of €31m (subject to adjustments as of the closing date, for example in relation to working capital) and discounted contingent purchase price components of €14m. The contingent purchase price components are dependent on the achievement of contractually defined financial and non-financial objectives (for example with regard to the integration of Capture 3D). If all the targets are met, a maximum amount of €26m will be payable for these components. Delays or non-fulfillment reduce the maximum amount of contingent purchase price components payable. If the objectives are not achieved, the contingent purchase price components can be reduced to a minimum of zero.

At the time of publishing the consolidated financial statements of Carl Zeiss AG as of 30 September 2021, the purchase price had not yet been allocated to the assets and liabilities of the acquired entity in accordance with IFRS 3 because there was still some information outstanding about the assets and liabilities. Accordingly, no information on the acquired assets and liabilities or the expected goodwill is disclosed pursuant to IFRS 3.B66.

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

34 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 €10,402k for fiscal year 2020/21 (prior year: €19,286k). Of the total remuneration, €1,781k (prior year: €4,814k) is attributable to service cost for pension obligations. Current fixed and variable remuneration comes to €8,621k (prior year: €14,472k). 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. There are pension obligations of €23,511k (prior year: €23,287k) and further obligations from outstanding remuneration of €14,275k (prior year: €6,603k) toward members of the Executive Board.

The total benefits paid to former members of the Executive Board and their surviving dependents amounted to €3,017k for fiscal year 2020/21 (prior year: €2,835k). Provisions totaling of €64,393k (prior year: €70,681k) were recognized for the benefit obligations to former members of the Executive Board or their surviving dependents.

The total remuneration of the members of the Supervisory Board of Carl Zeiss AG for their work came to €1,293k in fiscal year 2020/21 (prior year: €1,248k).

Oberkochen, 13 December 2021

The Executive Board of Carl Zeiss AG

Dr. Karl Lamprecht

Dr. Matthias Metz

Dr. Ludwin Monz

Dr. Christian Müller

Dr. Jochen Peter

Dr. Markus Weber

List of Shareholdings of the Group

in accordance with Sec. 315e (1) in conjunction with Sec. 313 (2) German Commercial Code HGB
30 Sep 21

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	Neuenstein	Carl Zeiss Automated Inspection GmbH	1	100.0	100.0
Germany	Oberkochen	Carl Zeiss Beteiligungs-GmbH	1	100.0	100.0
Germany	Düsseldorf	Carl Zeiss CIS Vertriebs GmbH		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		100.0	100.0
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	Oberkochen	Carl Zeiss IQR GmbH	1	100.0	100.0
Germany	Oberkochen	Carl Zeiss IQS Deutschland 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	Oberkochen	Carl Zeiss Microscopy Deutschland GmbH	1	100.0	100.0
Germany	Jena	Carl Zeiss Microscopy GmbH	1	100.0	100.0
Germany	Oberkochen	Carl Zeiss MultiSEM GmbH	1	100.0	100.0
Germany	Neubeuern	Carl Zeiss Optotechnik GmbH	1	100.0	100.0
Germany	Peine	Carl Zeiss QEC 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	Braunschweig	GOM GmbH	1	100.0	100.0
Germany	Frankfurt	Helaba Invest - CZFS Spezialfonds		100.0	100.0
Germany	Stuttgart	LBBW AM-CZFS Spezialfonds		100.0	100.0
Germany	Aalen	Marwitz & Hauser GmbH	1	100.0	100.0
Germany	Kiel	Opton Feintechnik Kiel GmbH	1	100.0	100.0
Argentina	Buenos Aires	Carl Zeiss Vision Argentina S.A.		100.0	100.0

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB	Beneficial Share in capital
			%	%
1. Fully consolidated subsidiaries				
Australia	North Ryde	Carl Zeiss No. 2 Pty Ltd	100.0	100.0
Australia	North Ryde	Carl Zeiss Pty. Limited	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
Belarus	Minsk	Carl Zeiss LLC	100.0	100.0
Belgium	Zaventem	Carl Zeiss N.V.-S.A.	100.0	100.0
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	Hong Kong	Carl Zeiss Far East Co., 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	Guangzhou	Carl Zeiss Meditec (Guangzhou) Ltd.	100.0	59.1
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	Hong Kong	Carl Zeiss Vision Sunlens Asia Pacific 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	Birkerød	Carl Zeiss Vision Danmark A/S	100.0	100.0
Finland	Vantaa	Carl Zeiss Oy	100.0	100.0
Finland	Helsinki	Photono Oy	49.0	59.1[3]
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	Cambourne	Carl Zeiss Ltd	100.0	100.0
UK	Cambourne	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

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB	Beneficial Share in capital
			%	%
India	Bangalore	Carl Zeiss India (Bangalore) Private Limited	100.0	100.0
Ireland	Wexford	Carl Zeiss Vision Ireland Ltd.	100.0	100.0
Israel	Misgav	Carl Zeiss SMS Ltd.	100.0	75.1
Italy	Milan	Carl Zeiss S.p.A.	100.0	100.0
Italy	Varese	Carl Zeiss Vision Italia S.p.A.	100.0	100.0
Italy	Cassano Magnago, Varese	Carl Zeiss X-ray Technologies S.r.l.	100.0	100.0
Japan	Tokyo	Carl Zeiss 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
Canada	Toronto	Carl Zeiss Canada Ltd.	100.0	100.0
Canada	Toronto	Carl Zeiss Vision Canada Inc.	100.0	100.0
Kazakhstan	Almaty District	Carl Zeiss LLC	100.0	100.0
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
Croatia	Zagreb	Carl Zeiss d.o.o.	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
Philippines	Taguig	Carl Zeiss Philippines Pte. Ltd.	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	Lisbon	Carl Zeiss Meditec Portugal Unipessoal Lda.	100.0	59.1
Portugal	Setúbal	Carl Zeiss Vision Portugal S.A.	100.0	100.0
Romania	Bucharest	Carl Zeiss Instruments S.R.L.	100.0	100.0
Russia	Moscow	Carl Zeiss LLC	100.0	100.0
Sweden	Stockholm	Carl Zeiss AB	100.0	100.0
Sweden	Malmö	Carl Zeiss Vision AB	100.0	100.0
Switzerland	Feldbach	Carl Zeiss AG	100.0	100.0
Switzerland	Feldbach	Carl Zeiss Vision Swiss AG	100.0	100.0
Singapore	Singapore	Carl Zeiss 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

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB	Beneficial Share in capital
			%	%
1. Fully consolidated subsidiaries				
Slovenia	Ljubljana	Carl Zeiss d.o.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	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	Carl Zeiss LLC	100.0	100.0
Hungary	Mátészalka	Carl Zeiss Sport Optikai Hungaria Kft.	100.0	100.0
Hungary	Budapest	Carl Zeiss Technika Kft.	100.0	100.0
Hungary	Mátészalka	Carl Zeiss Vision Hungary Optikai Kft.	100.0	100.0
USA	White Plains	Carl Zeiss Inc.	100.0	100.0
USA	Minneapolis	Carl Zeiss Industrial Metrology, LLC	100.0	100.0
USA	Reno	Carl Zeiss Meditec Cataract Technology, Inc.	100.0	59.1
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	Dublin	Carl Zeiss Meditec USA, Inc.	100.0	59.1
USA	White Plains	Carl Zeiss Microscopy, LLC	100.0	100.0
USA	White Plains	Carl Zeiss SBE, LLC	100.0	100.0
USA	Peabody	Carl Zeiss SMT, Inc.	100.0	75.1
USA	Hebron	Carl Zeiss Vision Holdings Ltd.	100.0	100.0
USA	Hebron	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
United Arab Emirates	Dubai	Carl Zeiss Vision MENA FZE	100.0	100.0
Vietnam	Ho Chi Minh City	Carl Zeiss Vietnam Company Limited	100.0	100.0

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB	Beneficial Share in capital
			%	%
2. Non-consolidated subsidiaries				
Germany	Rostock	arivis AG	87.0	87.0
Germany	Dresden	Carl Zeiss Digital Innovation GmbH	100.0	100.0
Germany	Oberkochen	Carl Zeiss EyeTec GmbH	100.0	59.1
Germany	Oberkochen	Carl Zeiss Grundstücks-Verwaltungs 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 International China Holding GmbH	100.0	100.0
Germany	Oberkochen	Carl Zeiss Zehnte Vorratsgesellschaft mbH	100.0	100.0
Germany	Oberkochen	Gusto Gourmet GmbH	100.0	100.0
Germany	Oberkochen	MuLight Technology GmbH	100.0	100.0
Germany	Ulm	Scantinel Photonics GmbH	52.3	52.3
Germany	Hohenbrunn	XETOS AG	51.0	51.0
Belarus	Minsk	JV ZEISS-BelOMO OOO	60.0	60.0
Brazil	Rio de Janeiro	Lentrix Industria e Comercio de Produtos Opticos Ltda.	51.0	51.0
China	Shanghai	GOM Optical Measuring Techniques (Shanghai) Co., Ltd.	100.0	100.0
China	Shanghai	Shanghai Light Care Technology Co., Ltd.	100.0	100.0
France	Guibeville	GOM FRANCE SAS	65.9	65.9
France	Strasbourg	InfiniteVision Optics SAS	100.0	59.1
UK	Coventry	GOM UK LIMITED	100.0	100.0
Indonesia	South Jakarta, DKI Jakarta	PT Carl Zeiss Indonesia	100.0	100.0
Italy	Buccinasco	GOM ITALIA S.R.L.	100.0	100.0
Poland	Slupsk	OptiMedi Sp. z o.o.	91.1	91.1
Poland	Slupsk	OptiNav Sp. z o.o.	100.0	100.0
Romania	Timisoara	Carl Zeiss MES Solutions S.R.L.	99.9	99.9
Switzerland	Widen	GOM International AG in Liquidation	60.0	60.0
Zimbabwe	Harare	Carl Zeiss (Pvt.) Ltd. (Zimbabwe)	100.0	100.0
Turkey	Istanbul	Carl Zeiss Teknoloji Çözümleri Ticaret Limited Sirketi	100.0	100.0
Hungary	Miskolc	ETEO Software Factory Kft.	100.0	100.0
USA	Hebron	American Optical IP Corporation	100.0	100.0
USA	Boston	arivis Imaging Inc.	100.0	87.0
USA	Warsaw	Bosello High Technology USA LLC	100.0	100.0
USA	Wixom	Carl Zeiss Metrology Services Inc.	100.0	100.0
USA	Princeton	EMMETROPIA, INC	100.0	59.1
USA	Charlotte	GOM Americas Inc.	100.0	100.0
Venezuela	San Diego	Carl Zeiss Vision Venezuela Industria Optica C.A.	100.0	100.0

Country	City	Name of entity	Share in capital acc. to Sec. 285 No. 11 HGB	Beneficial Share in capital
			%	%
3. Associates and joint ventures carried at cost				
Germany	Braunschweig	A3DS GmbH	30.0	30.0
Germany	Jena	JENAER BILDUNGSZENTRUM gGmbH SCHOTT CARL ZEISS JENOPTIK	33.3	33.3
Germany	Mainz	SCHOTT-ZEISS ASSEKURANZKONTOR GmbH	50.0	50.0
Germany	Holm-Seppensen	X-Ray Solutions GmbH	49.0	49.0
Italy	Samarate, Varese	S.E.A.I. S.r.l.	25.0	25.0
Norway	Lier	Visitech AS	25.0	25.0
Switzerland	Zug	KXO AG	38.3	19.6
USA	Bozeman	Bridger Photonics, Inc.	34.2	34.2
USA	White Plains	tooz technologies Inc.	50.0	50.0
United Arab Emirates	Jebel Ali, Dubai	Carl Zeiss Vision MENA Spectacles Trading LLC	49.0	49.0

[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 a purchase option that can be exercised at any time

Independent Auditor's 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 for the fiscal year from 1 October 2020 to 30 September 2021, the consolidated statement of financial position as of 30 September 2021, the consolidated statement of changes in equity and the consolidated statement of cash flows for the fiscal year from 1 October 2020 to 30 September 2021, 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 2020 to 30 September 2021.

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 2021, and of its results of operations for the fiscal year from 1 October 2020 to 30 September 2021, 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 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 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 by 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: Key Figures, Executive Board of Carl Zeiss AG, Foreword by the Executive Board, Solutions to Shape the Future, At Home Across the Globe, Challenge the Limits of Imagination, Highlights from Fiscal Year, Sustainable Development, The Carl Zeiss Foundation, Corporate Governance, Report of the Supervisory Board and Supervisory Board of Carl Zeiss AG.

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

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

» is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or

» otherwise appears to be materially misstated.

Responsibilities of the executive directors and the Supervisory Board for the consolidated financial statements and the group management report

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

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

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

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

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

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our 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 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) 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, 13 December 2021

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Marbler	Dr. Jungblut
Wirtschaftsprüfer	Wirtschaftsprüfer
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Legal Information/Disclaimer

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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 additional 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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