

ZOOM

THE MAGAZINE FOR ALL ZEISS EMPLOYEES

1/2020 ■ www.zeiss.com/internal/zoom



SEEING BEYOND

+++ Dear Colleagues, We began production on this issue of ZOOM before the coronavirus pandemic. Therefore, it does not include any information on the topic. To find out more, please visit team.zeiss.com, and take a look at our other channels. Thank you for your understanding! +++

Focus of this issue:
SEEING BEYOND

Here's to the future!

2020 marks the beginning of both a new year and a new decade. ZEISS can proudly look back on its achievements, and confidently look to the future: Team ZEISS has helped customers realize their ambitions and face new challenges along the way. ZEISS will continue thinking outside the box in the future.

This issue of ZOOM is therefore dedicated to "Seeing beyond." Why not take a look at the cover story on page 20. Or read our survey to find out how four ZEISS employees helped make the seemingly impossible possible through their daily work.

But, this issue is particularly special because April 2020 will see a new man take over the reins of ZEISS. Find out more about Dr. Michael Kaschke and Dr. Karl Lamprecht on pages 22 to 27.

And be inspired by our company's pioneering spirit. Happy reading!

ZOOM Team

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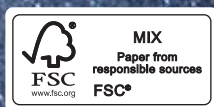
**CLICK HERE FOR
THE ZOOM 1/2020
ONLINE ISSUE**



**ZEISS AGENDA 2020
... TRANSLATED
TO REFLECT YOUR
DAILY WORK**

AN AVID
PHOTOGRAPHER

Dr. Michael Kaschke captured
this shot of the Milky Way
using none other
than a ZEISS Batis lens.



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UNUSUAL INSIGHTS

As the day draws to a close, a cowboy's hard work is finally done. The atmosphere that Rory Doyle has achieved shows us how his protagonists find a sense of peace as he consciously plays with the stereotypical image of cowboy culture.





ZEISS PHOTOGRAPHY AWARD

A Perspective with a Difference

Since 2016, the World Photography Organisation and ZEISS have been calling on ambitious photographers from all over the world to present their work to an international expert jury. The topic for 2020 will be “Seeing beyond – Discoveries.” Photographers from 150 countries submitted almost 58,000 photos for their chance to win the ZEISS Photography Award 2019. The topic was “Seeing beyond – The Unexpected” and was very much open to interpretation. What matters to the jury is that the photos tell a clear and powerful story.

The winner for 2019 was American photographer Rory Doyle. In his photo series “Delta Hill Riders,” he provides an unexpected look at Afro-American cowboy culture – and deliberately breaks with stereotypes. Doyle began documenting cowboys and cowgirls with African American roots in the Mississippi delta in 2017. His photos offer this little-known community a platform, which simultaneously allows him to showcase his photography skills.

Thinking outside the box can even help you come up with new solutions and enhance existing processes in your day-to-day work. Frank discussions with customers and employees from other areas of the company, as well as new forms of collaboration, are just some of the tools for doing so. After all, only by taking a step back from the core topics and habits in our daily work and being open to new perspectives will we be able to gain an edge over our competitors. ■

ZOOM > ZEISS Group



CHANGES TO THE EXECUTIVE BOARD

ZEISS Opts for Continuity with New CEO

The top position at the company has once again been filled from within ZEISS' own ranks: Effective 1 April 2020, Dr. Karl Lamprecht, currently the Executive Board Member responsible for the Semiconductor Manufacturing Technology (SMT) segment, will succeed Dr. Michael Kaschke as President and CEO of Carl Zeiss AG. As planned, Dr. Kaschke will not seek another reappointment when the term of his contract expires this year.

On 1 October 2019, Dr. Markus Weber was appointed the new Member of the Executive Board and Head of the SMT segment. On 1 October 2019, Dr. Michael Albiez succeeded Dr. Markus Weber as Head of the RMS strategic business unit. "This is an excellent time to pass the torch. We can now hit the ground running as we move ahead into the next decade of business success," says Dr. Kaschke.

Dr. Karl Lamprecht (left) and Dr. Michael Kaschke

The Supervisory Board voted unanimously in favor of these changes at its meeting on 24 September 2019, and expressly thanked Dr. Kaschke for his extremely successful contribution on behalf of the ZEISS Group: "This technology leader with a global reputation has been transformed into an active market shaper for the success of its customers worldwide. We would like to extend our special thanks to Michael Kaschke for his achievements. He has left his unique mark on ZEISS during his time as President and CEO, and his 20 years serving on the Executive Board," says Dr. Dieter Kurz, Chairman of the Supervisory Board of Carl Zeiss AG.

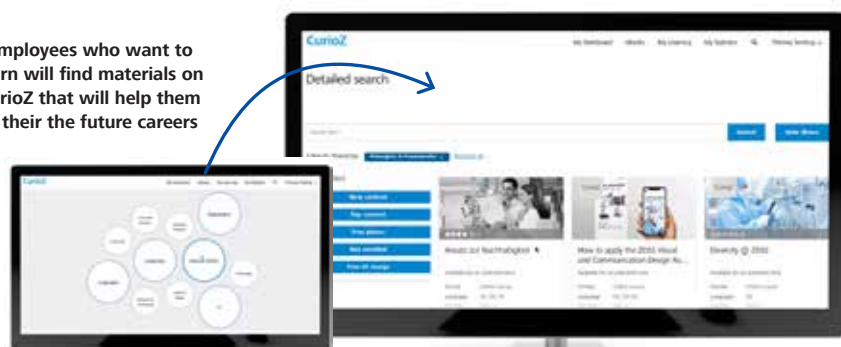
ZEISS Lays the Foundation for Greater Sustainability

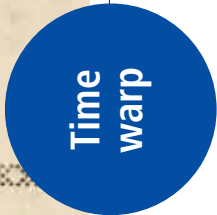
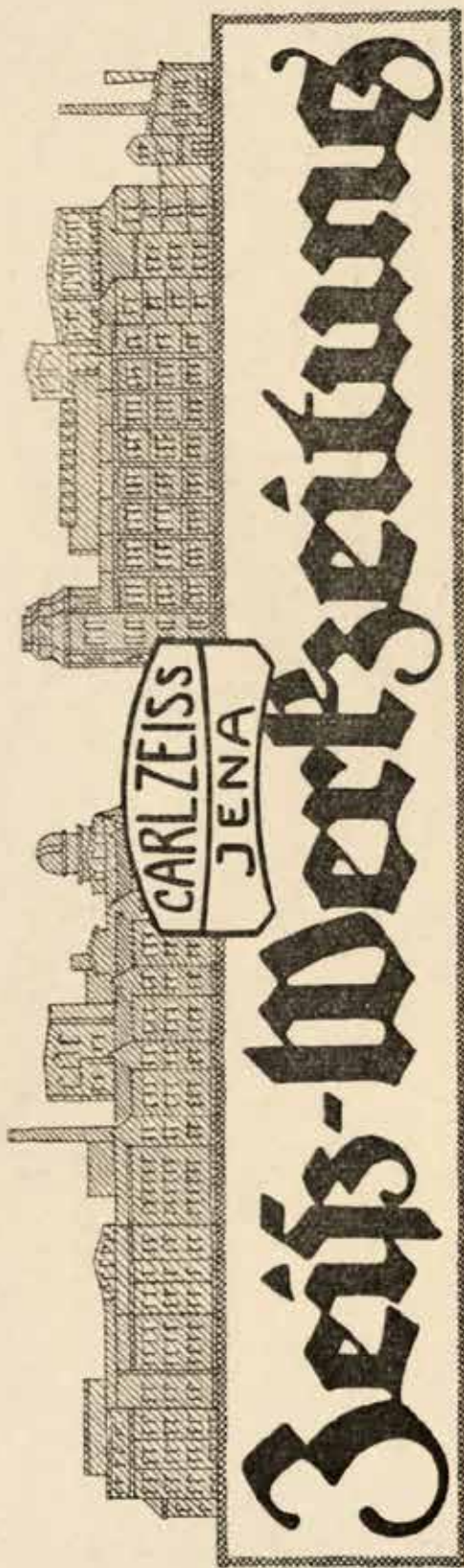
Climate change and the need to use our resources responsibly has prompted the Executive Board to implement three concrete measures to make sustainability an even more important part of the ZEISS strategy. First, a new position has been created – Head of Sustainability. Nicole Ziegler assumed this role on 1 October 2019 and is working directly with the President and CEO to drive sustainability throughout the organization. Second, ZEISS plans to have a carbon-neutral energy supply in place by 2022. And third, CO₂ compensation costs have been instituted for all flights since 1 October, along with other incentives to encourage low-carbon business travel.

Time to Get CurioZ

The launch of CurioZ – the name stands for "Curious ZEISS" – on 8 October marked the start of a new approach to learning at ZEISS. The new learning platform will replace the eCademy. It aims to help ZEISS employees gain the skills they will need in the workplace of the future. It also aims to drive ZEISS' transformation into a market shaper. CurioZ was released as a minimum viable product and is thus still in the early stages of development. The CurioZ team wants to use employee feedback to enhance the platform and its offerings.

Employees who want to learn will find materials on CurioZ that will help them in their the future careers





1. Jahrgang

1. Heft

1. Oktober 1919

Zum Geleit

Die Herausgabe einer Werkzeitung ist schon im Frieden ins Auge gefaßt worden. Zunächst hat die Anspannung aller Kräfte in der geschäftlichen Entwicklung, dann hat der Krieg die Ausführung des Planes verzögert. Die Ereignisse der letzten Monate haben uns aber überzeugt, daß eine Betriebszeitung im Zeißwerk nicht nur wünschenswert, sondern

Great Teamwork Never Goes out of Style

1 00 years old and still as relevant as ever: When ZEISS published its first employee magazine on 1 October 1919, its intention was to spark even better collaboration among its workers. In fact, the first issue delved into a topic that was to become one of the cornerstones of the ZEISS Agenda 2020. That is, how our employees must work as a team in order to be successful. In 1919, the publishers realized that individuals were losing track of the technical and

economical correlations present in a modern company. The magazine was seen as the tool to combat this – and this principle still holds true today. That's why we are still exploring many of the same topics: technology, business development, and company and work organization. The content itself has of course changed. For instance, a technology article used to look at triple reflectors (three mirrors installed at right angles to each other) and now it focuses

on quality assurance for electromobility. In terms of energy, ZEISS was concerned about the coal shortage after the war; today, we publish content on CHP plants. And in terms of work organization, people used to wonder how meaningful it was to have "divided or undivided working time," i.e. a 2-hour lunch break, whereas these days we discuss the merits of working at the office or remotely. ■

A Broader Perspective

It's often the smallest changes that make a big difference. Four ZEISS employees tell us how they think outside the box to come up with better solutions for our customers and their teams.

Hollie McDonald

**Product Specialist for Surgical Ophthalmology,
ZEISS Medical Technology (Auckland, New Zealand)**

I enjoy encouraging others to visualize their goals – and that includes our customers. Doing this at work helps me identify potentials, i.e. how a partnership with ZEISS can help my customers achieve their goals. I am certain that we can work with our customers to find the best solutions for them. Every single interaction – even the smallest step – is an opportunity to show how those of us on the ZEISS team in New Zealand, as pioneers of technological progress, can help customers adopt modern ways of thinking and acting. ■



**In this role,
I help our
customers
uncover
unexpected
potential //**

Rahul Khetawat

**Head of the Frame Platform, ZEISS Vision Care
(Aalen, Germany)**

In this role, I am developing the next-generation business model for glasses retailers. That means I have to push the limits almost daily – not just internally, but also in collaboration with external partners like frame manufacturers. Their broader perspectives help me gain a good overview of the industry and our competitors. In my day-to-day work, I always try to have a clear overview of the goals that have been set at various stages of the process. So I don't just want to see immediate results, but also determine what we can achieve in the medium and long term. This way, tasks that demand immediate results really do get us a little closer to achieving our goals. And our broad perspective benefits our customers by allowing us to offer them ideas and models they might not have even considered. ■



Their broader perspectives help me gain a good overview of the industry and our competitors //



Pei-Ying Lin

**Technical Sales & Marketing,
ZEISS Semiconductor Mask Solutions,
(Hsinchu City, Taiwan/China)**

We have to understand our customers' needs and the pressure they're under. Always thinking one step ahead can help us build and enhance our relationships. It also gives us the time to find out what we can really do for our customers. This allows us to identify – and leverage – business opportunities before our competitors wake up to them. Intensive communication with as many employees and customers as possible helps us think outside the box. In our day-to-day work it's important to ensure that as many employees as possible have the same information at their fingertips. So when we receive a request, we begin by analyzing why it has been submitted and then we define what action we can take that is both quick and suitable. Putting ourselves in someone else's shoes and trying to see the world through their eyes is a great way to come up with customized solutions. ■

Putting ourselves in someone else's shoes is a great way to come up with customized solutions //

Yeana Lee

Sales Representative for Refractive Lasers,
ZEISS Medical Technology (Seoul, South Korea)

“One Team!” is our slogan here in South Korea. We are a small but mighty team that strives to proactively meet its customers’ needs. As Practical Development Consultants, we keep track of your online and offline pursuits, such as marketing activities, at all times.

When it comes to getting the ball rolling on special events, such as ones in a hospital, we begin with an in-depth discussion. This helps us provide our customers with the best possible support, create the best possible patient experience and ensure success for all.

As an administrator for software launches related to customer relationship management in Korea, I’ve had many opportunities to get to know colleagues from other areas of the company. “Intensive dialogue opens up new opportunities in my work, which allows me to look at our business from different angles and work more efficiently. ■

Intensive
dialogue with
colleagues
opens up new
opportunities //

Looking



Any successful innovator needs to think outside the box. This practice has become something of a tradition at ZEISS, and it is how the company helps its customers turn their ambitions into a reality.

ALL-ROUND VIEW
The ZEISS VISUFIT 1000 features nine cameras arranged in a semicircle to take pictures of a person's head from different angles. The software uses this data to calculate the glasses wearer's digital twin.

In optics, Carl Zeiss and Ernst Abbe began thinking outside the box back in the 19th century, when they scientifically analyzed the design and functions of microscopes to achieve fundamental improvements in image quality. They shrugged off any setbacks, and continued to power ahead. They were convinced that the scientific basis of their work, coupled with the consistent application of new findings, would produce results far greater than what had been achieved in optics back then. Their success proved their theories – and became the foundation for the ZEISS company. “Seeing beyond” has thus long been ZEISS’ way of allowing others to achieve their goals. In fact, this aspiration has been an integral part of ZEISS’ corporate culture right from

the beginning.

As a result, the company is able to launch great products as well as tap into new markets. We lead rather than follow. Market-shaping innovations are what make ZEISS successful. Instead of just reacting to market demands, ZEISS can offer its customers much more than they ever thought possible.

Such as when visiting an eye care professional (ECP), where ZEISS drives the digitalization of traditional crafts considerably further than just by controlling optical measuring equipment. “Our ZEISS VISUFIT 1000 is a genuine flagship product that will astound ECPs and their customers,” says Bettina Friedl from ZEISS Vision Care (VIS). It was developed to measure the heads and eyes of people who wear glasses so that



ahead

The ZEISS VISUFIT 1000

creates a digital twin of the wearer. The image is so accurate that ECPs can use the data to precisely fit the lenses.

their new lenses can be centered correctly. To this end, ZEISS developers came up with a system featuring nine cameras arranged in a semicircle. They take photographs of the patient's head from different angles. Software puts these images together and calculates a three-dimensional model, or "digital twin."

"Our images and calculations are so accurate that ECPs can use them to center the lenses," Friedl explains. The digital twin then wears the glasses on a computer screen or iPad so that users can get a realistic idea of how they would look with the new frames. Feedback from ECPs who ZEISS had involved in the development of new solutions was particularly important, especially for this ZEISS VISUFIT 1000 function. "The ECPs told us that their customers were more likely to accept our system if the digital twin was not a perfect replica and the image had been somewhat digitally enhanced," Friedl says. After all, no one wants to see any blemishes, blood vessels or redness on a photo of themselves. Success is proving the ZEISS team right: the ZEISS VISUFIT 1000 was launched in August 2018; roughly one year later,

500 systems had already been installed across Europe. But it's not just end consumers who benefit from this simple way of trying on their new glasses. ECPs are also delighted. In just a few clicks, they can now offer significantly more frames and don't need to physically have them all instore. Should any frames they have in stock ever go out of fashion, they would have to dispose of them if they no longer prove popular with customers.

The development of the ZEISS VISUFIT 1000 is another great example of cross-divisional collaboration at ZEISS: the technology used to create the digital twin was supplied by the central Research and Development department. "These are some very creative employees with fresh ideas. Some are scientists fresh out of university who are aware of all the latest developments. They're much better than a business area at developing fundamental technologies like the one used to create the digital twin, which can also be used by other ZEISS areas," says Friedl. "Here at VIS, we have developed the expertise needed for actual application by ECPs."



THE BENEFITS OF A FOUNDATION COMPANY

Just as they were in the days of Carl Zeiss and Ernst Abbe, ZEISS' innovations are the product of consistent work to create new and improved solutions. Research and development are firmly rooted in the corporate strategy. ZEISS aims to ensure its success in the long term by offering innovations that go above and beyond customer demands. This claim forms part of how the company sees itself. It is also expressed in its corporate culture: anyone working on innovations consciously accepts the risk of setbacks. Endurance is what it takes

The 3D reconstruction is also of interest to other segments //

Bettina Friedl,
ZEISS Vision Care

to develop genuine innovations and make them successful. Unlike some listed companies, as a foundation company ZEISS can focus on long-term developments and forge its own path. There is a good reason why the company invests around ten percent of its revenue in research and development. ZEISS has defined the expertise needed to develop innovations in an eight-stage innovation process that takes into account the vast amounts of experience the company has gained throughout its history. This has made ZEISS a technology leader as it strives to become a market shaper.

REFINED BY SOFTWARE

Take the ZEISS Elyra 7. The development team was forced to go the extra mile so it could bring to life this superresolution microscope: test customers were impressed by the resolution, speed and precision of the images from the outset. This is largely achieved by using software to superimpose images; like a classic microscope, it begins by focusing the center of the image. "We involved customers early on in the development, and they wanted us to bring the image into focus right into the edges – even before the new system was ready for series production," says Ingo Kleppe from ZEISS Research Microscopy Solutions (RMS). Consequently, the development team put in some extra work, created algorithms to be able to visualize the images more precisely across the entire area – and impressed customers when they first unveiled the finished ZEISS Elyra 7.

ZEISS customers can now enjoy a new dimension in visualization on a nanometer scale thanks to the ZEISS MultiSEM. However, the developer team for the scanning electron

2

The ZEISS Elyra 7

is an optical microscope that breaks down structures up to 20 nanometers in size to allow you to monitor processes that happen very quickly.





The ZEISS MultiSEM

is the world's fastest scanning electron microscope. It captures structures as small as 3.5 nanometers.

1 /
DIGITALLY TRYING ON GLASSES
 is made possible by the **ZEISS VISUFIT 1000:**
 Scan your face, calculate the frames – that's all it takes to digitally try on glasses!

2 /
In an IMPRESSIVE APPEARANCE
 at its first trade show demo, the **ZEISS Elyra 7** astounded specialist visitors with new insights.

3 /
DEEP INSIGHTS
 are made possible by the **ZEISS MultiSEM** to accelerate brain mapping, a process Harvard professor **Jeff Lichtman** is working on.

microscope (SEM) faced both technological challenges during product development and an application technology challenge: during the 2008/2009 economic crisis their development partner from the semiconductor industry backed out of the project. The partner had originally been interested in a system that uses more than one electron beam to work faster than previous solutions. "In order to hold onto the expertise and progress the team gained, the ZEISS MultiSEM team looked for a new application outside the semiconductor industry and found it in brain research," says

Gregor Dellemann, Head of Business Development for the mSEM at ZEISS Research Microscopy Solutions. Top scientists are working on mapping the brain – a very complex and above all time-consuming exercise considering the organ's complex structures. Thanks to a scanning electron microscope like the ZEISS MultiSEM that works with 91 electron beams, this process can be significantly accelerated.

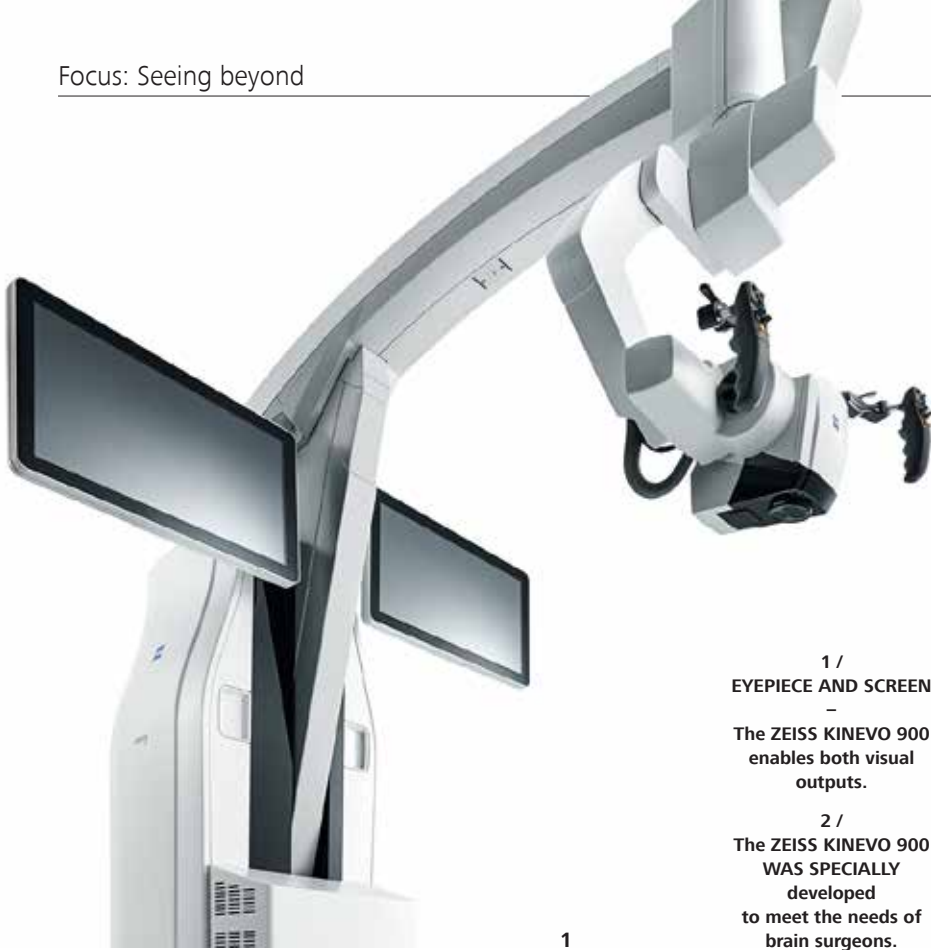
"However, our team had to gain completely new skills, such as in preparing samples in the same way that biologists and medical staff do, and working with our ZEISS MultiSEM," says Dellemann. This would not have been possible without ZEISS' willingness to drive innovations in the long term. Today, ZEISS is the only company that offers scanning electron microscopes that work with more than one electron beam. This and other elements allow ZEISS to spark a passion in top researchers like Harvard professor Jeff Lichtman. That's because the ZEISS MultiSEM makes it possible for him to delve deeper into how the brain works.

The ZEISS Medical Technology segment is also shaping the market by turning surgical microscopes into robotic visualization systems. "The team took a close look at neurosurgeons' pain points: where they need more support in the surgical workflow compared to what contemporary microscopes have to offer," says Frank Rudolph from the ZEISS Medical Technology (MED) segment. They found that they had to make it even easier to position the optics so that the operator has their hands free to control the instruments. For this reason, ZEISS engineers developed robotic support

and added a digital 4K3D visualization system: the surgical field below the ZEISS KINEVO 900 optics can thus be visualized on large 3D monitors – this is interesting for both the surgical team and the operator, as they are no longer forced to use the eyepiece for long periods of time to see what they are doing. They can now use the 4K3D monitor, which makes them feel less stressed in the OR. "Our intensive and lengthy collaboration with neurosurgeons has taught us that doctors tend to stick to interfaces they're familiar with," says Frank Seitzinger from ZEISS MED. "They value the robotic positioning of the ZEISS KINEVO 900, but are reluctant to fully hand over control of the system."

OPEN TO INNOVATIONS

One look at ZEISS' quality assurance demonstrates its courage to break into completely new application fields. When 3D printing attracted media attention for the first time a few years ago, it was not immediately clear that this technology would become part of production in industrial companies so quickly. However, the technology has now been established and is known as additive manufacturing. Unlike conventional processes, where material is removed from workpieces by drilling, milling or sanding, 3D printing creates the product one layer at a time: new material is repeatedly added to precisely defined positions by selectively melting powder until the finished product has been created. "Additive manufacturing poses very specific challenges for quality assurance,"



The ZEISS KINEVO 900

brings robotics and digital imaging to surgical visualizations. This takes the pressure off surgeons, making it easier for them to concentrate on the area they're operating on.

1 / EYEPIECE AND SCREEN

The ZEISS KINEVO 900 enables both visual outputs.

2 /

The ZEISS KINEVO 900 WAS SPECIALLY developed to meet the needs of brain surgeons.

1

explains Dr. Marcin Bauza, Head of Additive Manufacturing Process and Control at ZEISS Industrial Quality Solutions. "Workpieces may look identical from the outside, but their internal structures might be completely different. This has a big impact on its physical characteristics." These new levels of freedom in production therefore require even more consistent product checks. "ZEISS offers complete technology sets for quality assurance, which can be used to analyze the entire production chain, from powder to finished workpiece. Thanks to our comprehensive portfolio of solutions ranging from optical testing to 3D measurements and a look inside products using X-ray computed tomography and scanning electron microscopes, we are the only provider able to deliver on this promise. We thus offer everything needed to ensure



2

consistent quality assurance in additive manufacturing." ZEISS can therefore comprehensively serve the quality assurance market in additive manufacturing.

The semiconductor industry is all about delivering top quality through the smallest structures. ZEISS thus continues Moore's law, which states that the number of transistors on a microchip will double about every two years since the 1960s. Microchip structures have since become so small that they can only be directly created through exposure to extreme ultraviolet (EUV) light. The EUV wavelength is 15 times shorter than in conventional lithography systems. This enables chip structures less than 20 nanometers wide – that's 4,000 times thinner than a strand of human hair.

"Thanks to EUV technology we have shifted the boundaries of what was previously possible. Together with our customer and strategic partner ASML, we help further advance Moore's Law and enable microchip manufacturers to pursue their road map," says Winfried Kaiser, Head of Product Strategy at the ZEISS Semiconductor Manufacturing Technology (SMT) segment. "ZEISS lays the foundations for producing chips and systems that will bring many visions of the future to life: virtual and augmented reality, 5G connectivity, artificial intelligence, self-driving cars and big data."

ZEISS and ASML are driving this development: both companies are strengthening their long-term, successful partnership. They continue to invest in the

Additive manufacturing

involves external and internal inspections of the workpieces as part of quality control. ZEISS provides the technology required to do so.

HIGH STRESS LEVELS and maximum safety must also be guaranteed for engine components produced using a 3D printer.



REM, LM, X-ray CT
Powder and material characterization

Metrology and data analysis during printing
Powder bed inspection



3

EUV lithography

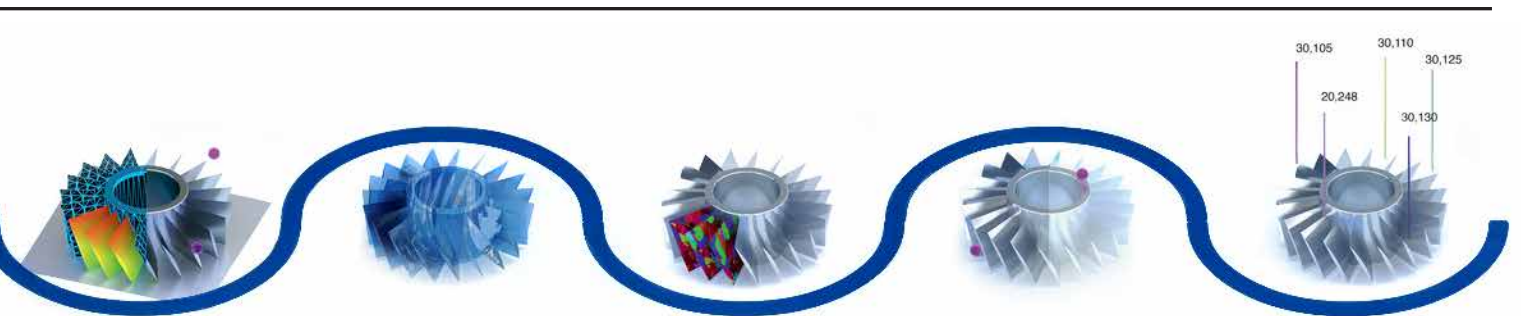
helps further advance Moore's Law, which focuses on the advanced miniaturization of transistors. Consequently, microchip structures will become even smaller.



4

3 / CLEANROOM PRODUCTION: ZEISS customer and partner ASML integrates EUV optics into its chip production systems.

4 / AN OPTICAL BEAM PATH for exposing chip structures using extreme ultraviolet light.



KMG, 3D scanning
Thermal treatment and parts removal after printing

X-ray CT, LM
Defect and interior structure testing

REM, LM, X-ray CT
Material quality testing after printing

KMG, X-ray CT, 3D scanning, LM
Testing dimensions and surfaces

PiWeb, analysis and correlation tools
process data statistics and analysis



tooz technology for smart glasses

Must fit in fashionable frames to become suitable for everyday use. They make it possible to call up information from a smartphone.

1 /
THE AREAS
in which information is shown on the lenses goes almost unnoticed.

2 /
GENUINELY SMART:
tooz' technology can be concealed in a way that makes smart glasses no longer appear as technology, but as a fashionable accessory with an additional function.

R&D of this product of the future. In 2016, ASML announced that it had acquired a 24.9% stake in Carl Zeiss SMT and agreed to a "High-NA program" to the tune of 760 million euros in order to advance the next generation of EUV technology, which makes it possible to directly generate chip structures as small as eight nanometers.

"ZEISS shares ASML's long-term ambitions and plays a leading role in overcoming optical challenges. As our partner, they develop unparalleled high-performance optics and exposure systems and thus support ASML as it implements its ambitious technology road map," says Burkhard Frick, Vice President of Strategic Sourcing for Lens/Illumination & Positioning Systems at ASML.

REAL STAYING POWER

It has taken over 20 years to take EUV lithography from the basic research and prototype stages and get it ready for production. During this time, ZEISS has been performing R&D in close collaboration with ASML. The launch of EUV technology is by far the most wide-ranging development in more than 170 years of ZEISS history – and proof of the company's staying power when it comes to promising developments.

ZEISS continues to innovate. As part of the tooz-Deutsche Telekom joint venture, the company is working on the technology for smart glasses. It may not be anything new since Google's first attempt to popularize such a visualization system, but "our competitors are advancing their smart glasses as technical systems. The solutions reflect this. They are not suitable for everyday

2



use," says Kai Jens Stroeder from tooz technologies GmbH. "We are looking at this from the user's perspective." Here at ZEISS we all know that glasses need to look good and must not be perceived as a disturbing, technological gimmick on people's faces." Instead of looking like an alien or cyborg, those who wear smart glasses from tooz should be seen as cutting-edge, lifestyle-oriented wearers. ZEISS is thus upholding its tradition of consistently looking at its technical solutions and applications through the eyes of its customers. Smart glasses capable of projecting information from smartphones onto the lens may be on the market as early as 2020. We are already in discussions with potential partners from the relevant lifestyle area. They intend to use tooz' technology and establish it as part of their brand.

The past and the present impressively underline the extent to which ZEISS is pushing the boundaries of our imagination as a pioneer of scientific optics systems. The ZEISS team is passionate about striving for top performance that encourages it to use innovations to create new customer benefits, shape markets and inspire the world. This is firmly rooted in the ZEISS corporate culture and forms the basis for further innovations. For an inspiring future. ■



Green and Efficient

Philipp Schmid knew he definitely wanted to work at ZEISS once he graduated: "I'd already become something of an expert in energy efficiency and renewable energies as a student, and I believed ZEISS would offer me a great opportunity to do my bit for the energy revolution; it was already generating its own

power using photovoltaic systems and combined heat and power plants (CHPs)." In May 2017 he began working as Energy Coordinator at the site in Oberkochen, where he is responsible for the CHPs at the ZEISS South Factory. "We supply the different business units with energy in the form of heat and electricity, but also with compressed air and cold," he says. He and his colleagues are responsible for ensuring that as few emissions as possible are released into the atmosphere and that the power plants run

as efficiently as possible. Economic viability and sustainability are not mutually exclusive: In his job, it's important to work closely with the ZEISS Environmental Management department to always keep track of stricter emissions requirements. "In a CHP, converting a catalyst enabled us to release formaldehyde from the previously acceptable 50 mg/m^3 to less than 30 mg/m^3 ," he says proudly. His decision to join ZEISS, therefore, is one he certainly doesn't regret. ■

Philipp Schmid

began working at Carl Zeiss Energie GmbH in May 2017 as Energy Coordinator and Project Manager. It is part of Business Services & Infrastructure (SBI) and provides Real Estate Management, Development Services, Purchasing and Logistics services worldwide.

[TREND SCOUTING]

Trends don't play a more vital role in any other industry than they do in fashion. That's why clothing companies in particular are sending out trend scouts in search of new developments and ideas for brand-new styles they can use to shape upcoming collections. They focus on the places their target groups gravitate towards – places like New York, London, Tokyo and Berlin – in an attempt to find exotic, individual styles that will set them apart from tomorrow's mass-produced fashions. This doesn't just work for the consumer business – trends can also be observed in investment goods and among business customers. That's how universities and trade fairs are able to reveal many things about the future. Those who make it in business are those who can adapt to future developments in time instead of waiting to see how demand or competitive pressures develop.

Nobody can predict the future. And yet we need information about it so that we can prepare ourselves for it and utilize the opportunities it presents. To benefit society,

FUT



[DELPHI METHOD]

The Ancient Greeks used to ask the Oracle of Delphi for advice about the future. But people have long since abandoned that approach. These days, instead of relying on an oracle, we have an expert team that meets several times to provide information about a particular topic. Each expert gives their opinions independently and without conferring; answers open and closed questions; and offers their views and assessments. These Q&A sessions are anonymous and evaluated to produce average values, as well as more or less precisely quantifiable categories. This analysis is then presented to the experts, who adjust and subsequently confirm their answers during further Q&A sessions. If there are no, or very slight, adjustments in their answers at these subsequent Q&A sessions, then the assessment can be regarded as the expert group's shared opinion.

our business and ourselves. Scientists have developed a number of methods to look into the future with at least a modicum of reliability. We present four of these to you below.

U R E

[SCANNING]

Not many things are as exciting as the future.

It's important for each and every one of us. That's why we spend so long thinking about it.

What's more, media, consumer publications like trade journals, as well as books and digital content are always reporting on trends and the future. Systematically collecting and analyzing this content helps us come up with a broad idea of the future. Given the sheer volume of possible sources we simply must focus on the relevant media, taking into account our particular questions and information requirements.

Scanning can be an open and unfocused way of finding out about the latest trends, but also a way of looking into the future. What nascent developments can we already detect? Looking into the future in this way is known as "horizon scanning." It presents long-term changes and is about much more than just passing fads.

[SCENARIO PLANNING]

What does the future hold? That's precisely what future researchers are trying to find out. Scenario planning reverses the task to a certain degree: You create an image of the future that is as plausible as it is possible, complete with realistic, justified assessments – and consider different issues based on this scenario. The identified developments are used to make assumptions. For example, best- and worst-case scenarios can be created that describe the future, either when everything develops perfectly in the desired way, or in the completely opposite way. These images of the future can be used to identify links and dependencies that make it easier to take the necessary steps and measures to trigger the desired development. Today, plans for certain scenarios are factored into every sound risk prevention strategy.



DR. MICHAEL KASCHKE calls for a commitment to ensuring sustainable business practices

Seeing beyond is not simply a question of optics. The ZEISS brand is a promise to our customers. We are a trusted partner and can help our customers realize their ambitions.

Trust and recognition are born of promises being kept and expectations being met, time and again. That's the only way to create a strong brand. Advertising for a brand that doesn't consistently live up to its promise is money down the drain. We meet our customers' discerning, complex needs with our innovative strength, as well as with leading technologies and our employees' sound application expertise. But also with a very special attitude. An attitude that sets apart our company and every single one of our employees, and is expressed in our brand identity through "Seeing beyond."

Through our company's many public appearances, and in discussions with our customers and partners, we consciously reinforce this attitude, this special feature of our brand promise. As CEO, not only am I obliged to lead by example with this attitude, but also to explain it clearly to our customers, partners and employees, and to encourage people to adopt it as a key component of our identity. ■

Seeing beyond

What this means for us as ZEISS employees:

- › Taking a step further and looking beyond the horizon
- › Farsightedness and the ability to look ahead in order to recognize the not-so-obvious things
 - › Not being satisfied with being an innovation leader, and also wanting to be a market shaper

What this demands of us as ZEISS employees:

- › An in-depth understanding of our customers' current and future needs, which allows us to see questions and issues in a way that goes beyond the surface
- › The ability to recognize trends
 - › Having courage and a joy of experimentation, taking controlled risks to break new ground

How we can do this as ZEISS employees:

- › Because since the company's foundation, we have always combined science and entrepreneurship
- › Because, as a company, we act responsibly
- › Because our ownership structure enables and encourages long-term thinking and actions

A Few Final Thoughts

On 1 April 2020, Dr. Michael Kaschke will be stepping down as President and CEO of Carl Zeiss AG. We asked him what it is that motivates him.



› **I don't usually give interviews like these ...**

but it's a great opportunity to take stock.

› **I start the day ...**

with a run whenever I can. Sometimes I enjoy a coffee while looking out into nature, and I read a little.

› **In almost 30 years at ZEISS, I've been most motivated/delighted ...** when ideas that seemed truly out there actually ended in great success, earning the praise of our customers and partners.

› **What annoyed me the most ...**

and what still annoys me are indifference and ignorance. Passion is the only thing that can counter this.

› **Learning is something I've ...**

always enjoyed. Curiosity and a thirst for knowledge have always characterized ZEISS and many of its employees. I've learned a lot during my career, and I'm very thankful for that.

› **I recharge my batteries ...**

in many ways: by cycling, hiking in the mountains and running long distances. Such as in Jena's Horizontale, a 100 km race I took part in last year. What a great experience!

› **If I had more time, I would ...**

first I'd enjoy the freedom of no longer being defined by others and taking control of my own schedule.

› **An appreciation for our own transitoriness ...**

helps me go through life with a sense of humility. This is something I'm often reminded of when I observe the night sky through my telescope.

› **Creativity is ...**

diverse and important for me as a physicist – particularly when it comes to being open to experiments. I was able to experience this with a great many people both before ZEISS and during my time here.

› **Scientific and technological progress ...**

is what drives people, as do responsible and ethical action and the sound use of new technologies like artificial intelligence.

› **Science and business ...**

can achieve even more if they join forces. This is definitely a subject I will continue to pursue – for instance, in my new capacity as Chairman of the KIT Supervisory Board.

› **The question I was asked most often in recent weeks was ...**

what will you be doing starting on 1 April 2020?

› **On 1 April 2020 I will be ...**

doing something meaningful.

› **I'd just like to say ...**

how very thankful I am for the many years I've spent at ZEISS. It has always been an honor and a privilege to work for this company and with its employees.

Ensuring Our Future Success

On 1 April, Dr. Karl Lamprecht will take over from Dr. Michael Kaschke as President and CEO. He spoke to us about his new role.

How does it feel to be the new ZEISS CEO?

Dr. Lamprecht: It feels great! I'm looking forward to my new role! ZEISS employees have every reason to be proud of our company. And I'm just as proud to become the new CEO of ZEISS.

How will your life change? What does your family think about you being President and CEO?

Dr. Lamprecht: For me, the biggest change will definitely be about accepting greater responsibility for ZEISS as a whole. That means I'll be speaking with even more of our employees and discussing a variety of issues with them. That's something I enjoy very much.

As for my family, they won't notice a huge difference because I'll still be spending a lot of time with them, on the weekends and during our vacations. Many people who

know me only found out what I'm actually doing at ZEISS through the news. And just as you would expect in a village in the Tyrol (Austria), life then simply goes on as it always has. That helps you stay grounded.

How have you been preparing for your new role in recent weeks?

Dr. Lamprecht: Through insights! I've mainly spent the last few weeks really getting to know the different ZEISS markets and our many customers, and have taken the time to get to know a large number of employees working in different areas. My Insights Tour enabled me to meet over 30 ZEISS teams at 11 ZEISS locations in the USA, China and Europe, as well as at 30 customer sites. I was thoroughly impressed. And, of course, there are many roles and responsibilities that come with being President and CEO, and I have also been preparing for these in close collaboration with Michael Kaschke.

Sounds good! Do you plan to do anything totally differently?

Dr. Lamprecht: ZEISS has an excellent structure – we have just finished up our tenth consecutive record year, and that alone is proof of how solid our structures are. It simply wouldn't make sense to change everything around at this stage. But, there are definitely certain areas where there is room for improvement, so that we can ensure our success in the future. For instance, the way in which we consistently implement our plans, and how this helps us achieve our



1



2

1 /
DR. KARL LAMPRECHT
visits the IQR Demo
Center in Oberkochen

2 /
AN INTERVIEW WITH
the ZOOM editorial
team

3 /
A VISIT TO
PRODUCTION
Dr. Karl Lamprecht
speaks to
Alexander Pitschinez

4 /
A LIVELY DISCUSSION
between Anna Lena
Eberle and
Dr. Karl Lamprecht
about the
ZEISS MultiSEM



3



4

I've experienced all of sports' highs and lows. That's how I discovered just how important it is to have a well-oiled team //



DR. KARL LAMPRECHT (55)

is married and has one daughter. He received his PhD in physics from the Institute for Experimental Physics at the University of Innsbruck and a Master of Business Administration (MBA) from the University of Chicago (USA). He then worked as a consultant at McKinsey & Company, Inc. and technology investor at AdAstra Venture Consult GmbH from 1995 to 2005. He joined ZEISS in 2005, initially serving as Head of Strategic Business Development at SMT before becoming Head of the former Laser Optics SBU and a Member of the Management Team for the SMT segment. In 2017, he assumed overall responsibility for Semiconductor Manufacturing Technology and, in 2018, was appointed in this function to the Executive Board of Carl Zeiss AG.

aims. This and other aspects will be included in the upcoming ZEISS Agenda 2025.

When can we expect the next ZEISS Agenda?

Dr. Lamprecht: First of all, don't forget that the ZEISS Agenda 2020 won't expire until the end of the year. We still have a few things to do and we can still bear plenty of fruit. Then we have to implement the measures designed to strengthen our resilience, and keep track of their development as well as any other tighter rules that may come. We are planning to launch communications for the ZEISS Agenda 2025 in fall 2020.

Can you summarize, in one sentence, what aim you've set yourself for your tenure as President and CEO?

Dr. Lamprecht: To work with my colleagues on the Executive Board and the entire Team ZEISS and take responsibility for ensuring an equally successful future.

Allow us to ask a more personal question. What do you like to do on the weekend?

Dr. Lamprecht: Oh, that's an easy one. On weekends you can normally find me with my family in Tyrol. We almost always go hiking in the mountains in the summer, and skiing in the winter. But in the summer, you can usually find me outside kitesurfing.

Spending my free time in the mountains or in the water are fantastic ways for me to leave the busy office behind for a while. This allows me to gain a little perspective and recharge my batteries. It helps me reflect on things and, often, to come up with new ideas as well. This work-life balance is important as it allows me to give my all in the work I do at ZEISS.

You pretty much grew up in the mountains. What were the defining moments in your youth?

Dr. Lamprecht: You know, I actually grew up at Innsbruck airport. My father was an airplane mechanic and he taught me all about his work and how he goes about it. That's what initially inspired my affinity for technology, and it still drives me to this day. In my leisure time, I enjoy playing volleyball – I even played on the national team, so I've experienced all of the sport's highs and lows. That's how I discovered just how important it is to have a well-oiled team. You need to be highly dedicated, ambitious enough to want to win, have great team spirit and be very well structured – and certainly have excellent leadership and sound tactics. My involvement in sports is a great source of new knowledge and analogies for the management.

One final question: What has been your most memorable moment in the last 15 years at ZEISS?

Dr. Lamprecht: I had my personal ZEISS moment on my very first day – when I received my ZEISS ID badge. After many years working as a consultant and investor, I became a member of an industrial company, and a part of the ZEISS family.

But I still very much appreciate the little moments, every single day. These often take the form of discussions with our employees. Over the last few weeks I've gotten to know many employees who didn't join ZEISS by chance, but who feel they are in the right place and are fully committed to their work – just like me, in fact. ■

On the Road for

In recent weeks, Dr. Karl Lamprecht has been busy visiting the different ZEISS markets, and getting to know many customers and ZEISS employees from different areas. His Insights Tour took him to more than 30 ZEISS teams at 11 locations in the USA, China and Europe, as well as to 30 customer sites. Here are just a few of his experiences.



USA

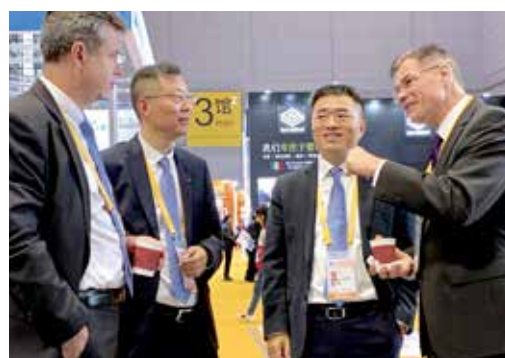
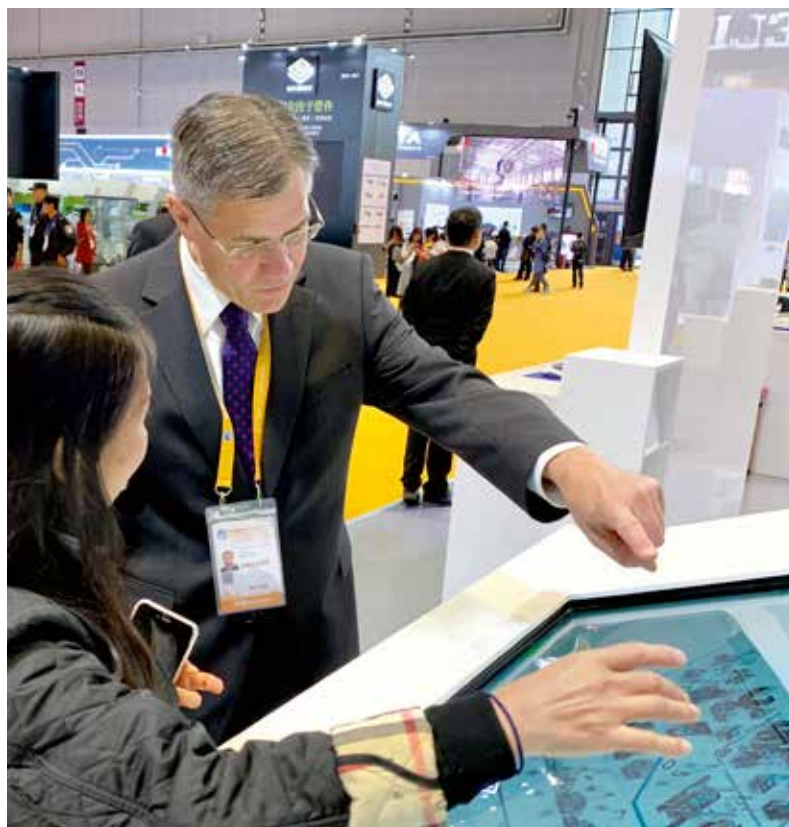
During a visit to Industrial & Quality Solutions (IQS) and Medical Technology (MED)

Europe

Visiting the Digital Innovation Partners (SIP), Medical Technology (MED), Corporate Research and Technology (CRT), Consumer Markets (COM) and Research Microscopy Solutions (RMS)



ZEISS



China

At the CIE trade show and
visiting the
Helping Eye Hospital





ZEISS HIGH TECH SITE IN DUBLIN
Visiting the showroom to discuss current innovations



GLT Summit

A Time to Assess, Reflect and Learn

As the ZEISS Agenda 2020 draws to a close, the members of the Global Leadership Team (GLT) used the summit to assess its current status: What have we achieved? How do we mean to go on?

Around 150 members of the Global Leadership Team (GLT) recently met in the San Francisco Bay Area for a busy three-day summit. They took stock of the ZEISS Agenda 2020, celebrated achievements and discussed how to build momentum for ZEISS' transformation from a technology leader to a market shaper.

Taking stock of the ZEISS Agenda 2020

The summit kicked off with a visit to the ZEISS location in Dublin, California. There, the GLT members got an up-close look at the new High Tech Site currently under construction. They also toured the Medical Technology Showroom and attended presentations on the latest innovations.

The second half of the day was devoted to discussing the progress of the ZEISS Agenda 2020. The GLT members also took the time to honor the achievements of the five Key Group Programs which helped to implement the ZEISS Agenda, and presented awards to their peers in recognition of their extraordinary achievements.



1 / **DUBLIN** A new High Tech Site for the Medical Technology segment is under construction here

2 / **OPENING SPEECH** given by the President & CEO Dr. Michael Kaschke

3 / **DR. JOCHEN PETER (LEFT) AND DR. MATTHIAS METZ** presenting the accomplishments of the Key Group Program

“Seeing beyond” in Silicon Valley

On the second day, the summit participants headed out to Silicon Valley to meet with representatives from iconic companies like Google, Tesla and Microsoft, as well as a handful of young startups. These visits provided an opportunity to learn about innovative and experimental approaches to business and served to inspire the participants to “see beyond” in whole new ways.

In the afternoon, a poster exhibition showcased potential market-shaping innovations developed in-house. GLT members also shared insights from their company visits that morning, and discussed how their new insights could be applied to ZEISS in the future.

As this was Dr. Kaschke’s final GLT Summit at ZEISS, he used his speech at the evening event to take GLT members on a trip down memory lane. He shared what he’s learned after almost a decade serving as President & CEO of the ZEISS Group, and especially from the strong ZEISS team. Dr. Kaschke then passed the torch to Dr. Karl Lamprecht, who will succeed him on 1 April, and expressed his gratitude to everyone in the organization: “Thanks to all of you, it has truly been a privilege working for ZEISS.”

Looking ahead

The final day focused on the future of ZEISS, and in particular on the importance of its leadership culture, as well as the role GLT members are to play in driving ZEISS’ transformation and topics like resilience and sustainability.

To conclude the summit, Dr. Lamprecht stressed that ZEISS is already on the right track. “There will be no radical changes. It’s about continuity,” he said. The second half of the fiscal year will focus on wrapping up the ZEISS Agenda 2020 and putting together the next strategy.



4 / **A LIVELY DISCUSSION** How will ZEISS become a market shaper?

5 / **PODIUM DISCUSSION** Transforming a technology leader into a market shaper

6 / **SYMBOLIC** passing of the torch

ZOOM > SMT



New Head of SMT

On 1 October 2019, Dr. Markus Weber became the new Head of the Semiconductor Manufacturing Technology (SMT) segment and a member of the ZEISS Executive Board. We are pleased to welcome him back to SMT and are sure that his many years of experience, paired with his exceptional technology knowledge, will be a great asset for us. Dr. Weber first joined ZEISS back in 2002. Now 46, he has amassed comprehensive expertise and lives by a management philosophy firmly rooted in culture and values, the result of his many years of experience holding leadership positions at ZEISS. He has worked at the SMT and Medical Technology segments, and also as Head of Corporate Research and Technology. Most recently, he was Head of the Research Microscopy Solutions strategic business unit (SBU). Dr. Weber will be taking over from Dr. Karl Lamprecht, who will become ZEISS' new President and CEO on 1 April 2020. ■

Exceptional mask repairs

At SPIE Photomask Technology and the EUVL Symposium in the USA, the Repair field of business (FoB) at the Semiconductor Mask Solutions SBU was honored for its significant contribution to the advancement of the photomask industry thanks to its design, development and marketing for the MeRiT® electron beam-based mask repairs system. The award was presented by Intel. ■



Dr. Klaus Edinger, Head of the Repair FoB, with Frank Abboud and Ted Liang from Intel (from left to right)



Eureka!

In fiscal year 2018/19, the ZEISS team and its strategic partner ASML achieved a major breakthrough in EUV lithography.

As a result, conventional lithography optics can now be used to produce even finer chip structures. And semiconductor manufacturers can make a major technological and historical leap in chip production. This is an achievement that was 20 years in the making and saw many highs and lows. But, the team demonstrated exceptional staying power and perseverance. These days, EUV lithography enjoys greater market acceptance. Major semiconductor manufacturers already use EUV technology to ensure their business success.

There has recently been yet another reason to smile: The Semiconductor Manufacturing Technology (SMT) segment has already shipped 100 EUV systems to its customers in Veldhoven in the Netherlands. It thus made a key contribution to EUV industrialization and provided further proof of its market success. In fiscal year 2019/20, SMT aims to further step up the production of its EUV systems. ■



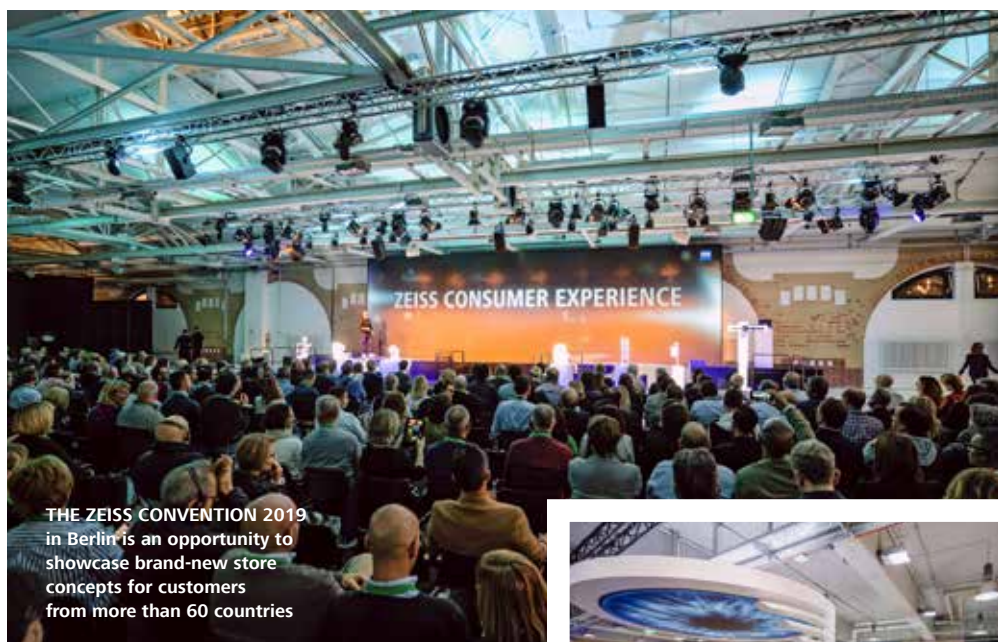
New possibilities in 3D technology

SEMICON Taiwan welcomes 50,000 visitors and is the semiconductor manufacturing industry's second-biggest trade show. In September 2019, this is where the Process Control Solutions strategic business unit launched the new Xradia model 620 Versa RepScan – distortion-free 3D X-ray image capture for inspection and measurement with submicron resolution. Semiconductor manufacturers can now use the Versa RepScan to better overcome the challenges associated with the latest 3D megatrends in chip manufacturing. The innovation is thus capable of accelerating the market launch of progressive semiconductor packages. At a press conference, Taiwanese editors and analysts expressed their interest in ZEISS and in the technologies offered by the Semiconductor Manufacturing Technology segment. Considerable media coverage followed in Taiwan, the USA and in Britain, with more than 30 published features. ZEISS aimed to use the trade fair to raise the profile of its technologies among semiconductor manufacturers – and that's just what it did. ■

Back to school

In November, STEM students, scientists and engineers, and especially those with experience in optics, found out all about the world of microelectronics at the ZEISS European Autumn School. They spent two days in Oberkochen learning about ZEISS the technology leader and about semiconductor manufacturing technology. At the Museum of Optics, the 50 international participants embarked on a journey through the world of optics and experienced more than 170 years of innovation firsthand. Leading experts from the Semiconductor Manufacturing Technology segment then presented their specialist topics in lithography optics. During a subsequent tour through the SMT production area, visitors gained insights into the world's most cutting-edge lithography center. ■

ZOOM > COM



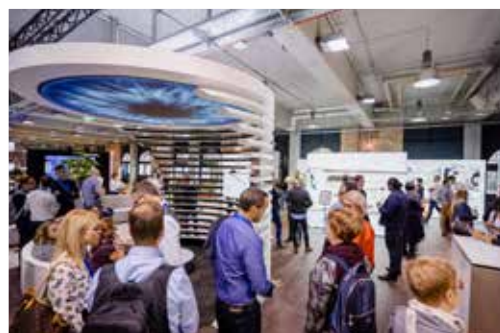
THE ZEISS CONVENTION 2019 in Berlin is an opportunity to showcase brand-new store concepts for customers from more than 60 countries

BRAND EXPERIENCE

ZEISS at the Point of Sale

New binoculars, a riflescope and eyeglass lenses are all products that need an explanation. So how can ZEISS bring them to life in stores? COM has come up with some fresh new ideas that are guaranteed to succeed.

Anyone who visits an eye care professional will see walls lined with frames and instruments used for the eye exam. But ultimately, it's the lenses that will determine how clearly you see the world. The ZEISS brand utilizes interactive modules, edutainment formats, demonstrators and a strong presence – and ZEISS Vision Care aims to boost the impact that ZEISS branded lenses are having on consumers. "People who purchase glasses and know more about individual options for good vision will be in a better position to make a conscious decision about their lenses. And if they consult an optometrist, they're much more likely to opt for ZEISS lenses than no-name products," says Sven Hermann, Head of Marketing and Sales at ZEISS Vision Care. "Consumers often don't immediately realize the added value that modern, customized lenses offer. By making



CONSUMER EXPERIENCE: Online, mobile and instore concepts link ZEISS to consumers – and benefit our customers.

it easy for eye care professionals to explain the benefits of ZEISS branded lenses, and by creating spaces in which consumers can find out more, we are ensuring a stronger business for our customers and thus also for ZEISS."

We need to bear two things in mind: First, ZEISS doesn't operate any of its own stores – so we must always rely on our customers' loyalty to our brand. Second, the "consumer journey" – i.e. the consumer's entire online shopping experience – would be impossible without the internet. "Our award-winning web and smartphone apps allow us to reach out to consumers whether they're at home or on the go – by giving them a fun way to find out more about their own visual needs and about the benefits that branded lenses offer today," says Hermann. An intuitive ECP search connects users directly with a ZEISS customer's business – allowing the ECP to directly view their My Vision Profile results. "We use the digital customer card to link our online and offline business in a way that benefits customers even after they've made a purchase."

New ZEISS instore brand communication now also for hunting and nature observation

ZEISS Consumer Products customers can now enjoy a new shopping experience and increase their brand awareness. Instore displays for dealers specializing in hunting and nature observation put the focus squarely on customers. "We offer clear guidance across all ZEISS products by focusing on users' application areas and needs," says Jörg Schmitz, Head of ZEISS Consumer Products. A prime example of this is the first ZEISS brand store for hunting and nature observation and one of Germany's premier specialist dealers, Waffen Schmithüsen in Xanten. ZEISS riflescopes, spotting scopes and binoculars are displayed on an area measuring 30 square meters, and all the products can be tested right there and then. Product descriptions and tablets help consumers delve deep into ZEISS' product ranges. Smart products like the ZEISS Victory Rangefinder System for accurate long-range shooting can also be tried out in a virtual setup. Schmitz: "People are much more inclined to purchase a premium ZEISS product if they can try it out and compare it to other products. Collaboration within this ZEISS segment is a great way of developing concepts and bringing them to life with specialist dealers. "Our customers are very different. But, our shared knowledge of their needs, as well as what makes global markets tick, is a real boon," says Schmitz. "Reinforcing ZEISS' presence in consumer markets serves to link the two business units. Together, we're simply stronger."



SCHMITHÜSEN is a dealer specializing in hunting and nature observation. Consumers can experience what ZEISS is all about simply by stepping into a store.



A Day in ... La Rochelle



[08:00] ■ Cleanliness is next to godliness

Around 150 employees work at the site in La Rochelle, producing some 2,500 eye surgery implants every day. They must ensure that not even a speck of dust can compromise their products. This means Christiane Barreaud and her colleagues all have to don their hairnets and overalls before entering the cleanrooms.



Team spirit, strategic thinking and precision – that’s what helps us succeed at work and in boules. //

[07:45] ■ The day begins

Christiane Barreaud is an early riser. By the time she arrives at ZEISS in the morning, she’s already been on the go for a couple of hours. She likes to get her chores done in the mornings so that she can make the most of her evenings. It takes her less than 15 minutes to cycle to work – as long as the weather plays along, that is.

[08:30] ■ Preliminary discussion

As production manager, Christiane Barreaud is the main port of call for the team leaders. To ensure there are no surprises at the daily 9 o’clock meeting with all the areas involved, she meets briefly with the quality assurance manager and a team leader beforehand. Together, they scrutinize the previous day’s production figures and, if needed, the trio develops ideas for optimizing them.

06:00 ■ Wake up

09:00 ■ Meet with the team leaders

For 28 years, Christiane Barreaud has been working at the ZEISS site on France’s Atlantic coast, where the company produces implants for cataract surgeries. The passionate boules player coordinates production and is always on hand to lend her team leaders an ear.



NEW DUTIES
 Since we visited Christine in La Rochelle, she has assumed new duties in Production. She was recently put in charge of Operational Human Resources Management, where one of her duties is to ensure sound workplace ergonomics – a new challenge for Christine!



[15:00] ■ Tour

Christiane Barreaud normally spends her afternoons finishing up some paperwork and ensuring that enough employees are available at any one time. But, she always finds time to do the rounds, which means she’s always talking to staff and staying up to date with the latest developments, e.g. in Quality Assurance.

[18:30] ■ Time for a workout!

About 10 years ago, Christiane Barreaud discovered the joys of boules. She sees this hobby as a sport: it demands a high degree of concentration, team spirit and practice. As a pointer, she can get the boules very close to the jack. Her husband is a thrower and has to knock the opponent’s boules out of the way. These two make a great team!



[13:15] ■ Lively discussions with colleagues

The site in La Rochelle has its very own break room, where employees from all areas can come together for a well-earned rest. They often share recipe ideas and bring homemade cakes with them.

[18:15] ■ In the garden

Christiane Barreaud is green-fingered and passionate about keeping her garden looking its best. After work, she likes to stop by a nearby tree nursery for some new plants.



13:00 ■ Eat lunch

18:00 ■ Call it a day

23:00 ■ Bedtime

A Sport of Equals

Bianca Kalkman is a fantastic athlete when it comes to one particular sport where gender is a non-issue: korfball.

Men play against men, women play against women – and one team of four men and four women battles it out against an identical opposing team.

Korfball is a sport where traditional gender roles are cast aside. Think of it like a cross between basketball and netball, with mixed teams: Four women and four men form one team split into two groups: attackers and defenders. As per the rules, they play against a team with an identical setup.

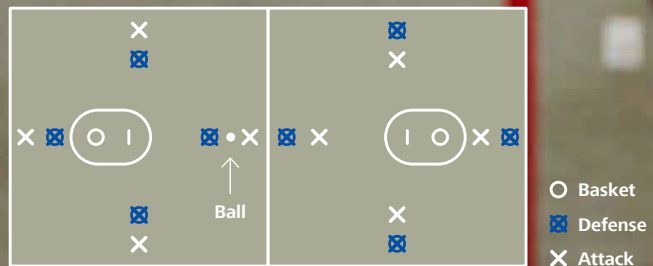
“Korfball is essentially about the team, and the process of growing into one. That’s the only way we stand a chance of winning,” says Bianca Kalkman on what she loves about korfball. Speed, shooting accuracy and a good level of fitness are just as important – but individual players are only effective if they work together. This is partly because the players must not dribble the ball: once they’ve gained possession of it, they must pass it to a teammate without moving around the court. Players aren’t even allowed to pivot on one foot. They’re essentially frozen in place – making teamwork essential. Another rule is that a player may not attempt to score a goal if an opponent is standing an arm’s length between them and the basket. Korfball players refer to this as a “close defense.” Points can only be won if players quickly pass the ball to a teammate who is open and can attempt to score. A game is normally split into two 25-minute halves, during which roughly 20 to 25 attempts are made to score a goal. After every two goals,

the players swap between attack and defense, which means the teams score an equal number of points overall.

A SEVEN-TIME DUTCH CHAMPION

That’s why any korfball player worth their salt must keep track of what’s happening on the court and communicate well with their teammates. Bianca Kalkman is skilled at both of these things, and she’s certainly sporty enough: the seven-time Dutch champion has been notching up victories since she was 11, and her last may have been at 19.

Now 25, her skills of keeping track of things and being an excellent communicator come in very handy for her role at ZEISS, where she coordinates communications in the Benelux countries. Not only does she need to keep track of what’s happening in three countries, she also has to ensure excellent



A new Korfball game begins (left); the court after a goal has been scored (right). The court measures 20 by 40 meters in size.



THE RULES OF THE GAME

1. Four men and four women play on one team.
2. Everyone has a direct opponent of the same gender.
3. The basket (“Korf” in Dutch) is located on the court itself, not on its perimeter. To score a goal, the ball has to be shot downwards through the basket.
4. Anyone being closely defended (i.e. any player whose opponent is standing up to an arm’s length between them and the basket) may not attempt to score a goal.
5. Korfball is a non-contact sport. So players may not block, shove or hold onto their opponent.
6. Players must not run with or dribble the ball.

teamwork across people who speak different languages.

"I started playing korfbal when I was nine. That's actually quite late – really, five would have been the best age to start," says Kalkman. "Still, I enjoyed the game a lot and I seemed to be quite good at it, too." That's how this Rotterdam native climbed up to the highest Dutch league during her korfbal career. Just two years ago, she decided to put her sporting career on hold due to time constraints, and has since been playing in a new team with the KCC club (Korfbal Combinatie Capelle).

A FOCUS ON TEAM BUILDING

"Our last season wasn't our best; we suffered many defeats. Our team dynamics simply weren't up to scratch," admits Kalkman. So her team has changed tack in its training sessions, and is now focusing on all aspects of

BALL SAFETY
and flawless teamwork
are what make korfbal
so appealing for
Bianca Kalkman.

team building instead of simply on winning. After all, victory is only something a team can achieve if its players put up a united front.

Kalkman's colleagues value her korfbal experience. "Communication is about getting everyone involved. And my colleagues know I'll do everything in my power to help us achieve our goals," says Kalkman. She is a team player through and through, and also has a degree in business administration.

OLYMPIC ASPIRATIONS

Kalkman believes that she and her korfbal team are on track to becoming stronger than ever. Maybe it helps that her 19-year-old brother and 23-year-old sister are also on the team.

Korfbal was invented in the Netherlands in the early 1900s; today, it has a following of around 85,000 in its native land. The sport has also found favor on the international scene, especially in Belgium. The International Korfbal Federation (IKF) promotes the sport in 69 countries worldwide, yet it is still perceived as being rather "exotic." It can also be seen as a pioneer of gender equality. Bianca Kalkman is therefore happy to support a major aim of the IKF: to take the sport to the Olympics by 2028. ■



THE ZEISS BATIS LENS FAMILY is now available in five different focal lengths.

Customers in Focus

With their excellent image quality and finishing, the ZEISS Batis lenses make all the difference to the work of a photographer. Pros and discerning amateurs alike can thus achieve exceptional imaging performance and create impressive images – no matter where they're shooting.





LIGHTWEIGHT AND RUGGED
Travel photographer Ed Norton
loves the low weight and
robustness of the Batis lenses.

Pros and amateurs share a common aim: to capture unique and fascinating images //

Björn Pados,
ZEISS Consumer Products

Sometimes, a photographer has mere seconds to create unique images: the fleeting gestures of a bazaar merchant, half shrouded in darkness. The sparks that fly into the air as a berber fires up his clay stove. Or the final rays of light as the sun sets over the kasbah (an Arabic fort). For travel photographer Ed Norton, these are the crucial seconds when the Batis lenses really come into their own (see interview). He has used them to shoot some impressive photos in London that will stand the test of time. And they all have one thing in common: the unique ZEISS look.

The Batis lenses are exactly what they were developed to be – high-performance, lightweight and compact. This lens family with its two focal lengths – the ZEISS Batis 2/25 and the ZEISS Batis 1.8/85 – was unveiled for the Sony E-mount system back in 2015. The ZEISS Batis 2.8/18 was then added in May 2016, and the ZEISS Batis 2.8/135 in May 2017 in order to expand the product portfolio. In September 2018, the lens family saw another addition in the form of the ZEISS Batis 2/40 CF. Thanks to its universal normal focal length and close

focus function (CF), the lens enables photographers to capture images from highly interesting angles – up to a distance of just 24 cm.

ZEISS camera lenses are among photographers' prized possessions and have been setting new standards for decades. "Since we launched the Batis lenses, those using the Sony E-mount system with a full-frame sensor have been enjoying the autofocus (AF) in conjunction with tried-and-true ZEISS image quality," says Björn Pados, Category Manager for Imaging at ZEISS Consumer Products. "And they've been doing so in connection with a lightweight yet robust design: the full-frame lenses weigh in at just 330 to 614 grams."

Whether pros or amateurs, what ultimately counts for users are that the cameras meet their high standards. "Our

new campaign for the Batis product family is aimed at both target groups, who share a common goal: to create a technically flawless yet unique and fascinating image," says Pados. He works at Category Management, where one of his tasks is to turn customer needs into customized solutions – meaning customers are offered products that precisely meet their needs. Core messages have also been defined for subsequent product communication measures. This resulted in the new campaign, which is run across all target group-specific communication channels. It showcases how photographers were able to use the Batis lenses to create stunning photos and capture unique moments in Marrakesh.

These photos exude the signature 'ZEISS look' – a term coined by ZEISS lens

users themselves. The campaign uses scientific aspects to explore this term and makes it accessible to the target group through simple language. The campaign's core message is "No Art without Science."

**IMPRESSIVE EVERY TIME:
THE ZEISS LOOK**

Thanks to many years of experience, the excellent photographs created using ZEISS lenses certainly exude the now legendary ZEISS look. "The ZEISS look ensures exceptional definition across the entire image field – even with a fully open aperture," explains Dr. Johannes Zellner, Head of System Design at ZEISS. "If you detach a subject from its background using the depth-of-field effect, the high resolution capacity on the focal plane works with a harmonious, gentle bokeh – i.e. the blurred background – to ensure that the subject appears more profound." In other words, it is lifted off the background to appear three-dimensional.

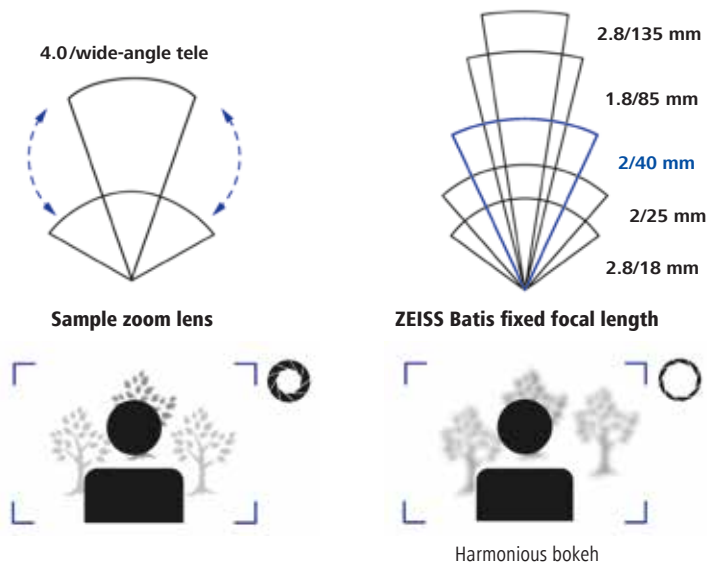
This magical effect is created through intensive microcontrasts and other effects. Special lenses, a precise mechanical finish and a wide-open aperture all work together to deliver this effect. In the age of digital photography, lens coatings are becoming increasingly important. That's because sensors' ever greater dynamic range presents an increasing risk of visible stray light and ghost images.

The anti-reflective coating that ZEISS has been using since the 1930s to reduce reflections has been continually enhanced and is now known as the T* multi-layer anti-reflective coating. "Here at Product Development, we are using ever more methods to stimulate stray light in order to perfect the inner contour of the lens," says Dr. Zellner. The result? Clear, true-to-life photos that are rich in contrasts and exude natural colors.

**PERFECT FOR LIGHTWEIGHT,
MIRRORLESS SYSTEM CAMERAS**

The Batis family features a clean, ergonomic and functional design. Whether in the studio, on location or outdoors, these lenses offer much more than just elegant technology, and still deliver top performance in tough conditions.

Some event and wedding photographers spend all day on their feet. A travel photographer like Ed Norton says that, compared to his previous SLR systems, he's practically halved the weight of his equipment since switching to the Batis/Sony range. The lenses achieve this through a combination of high-tech plastics and a



The high resolution on the focal plane works with a harmonious and gentle bokeh to ensure the subject appears more profound //

Dr. Johannes Zellner,
Head of System Design,
on the ZEISS look

Dynamic development

ZEISS' partner Sony continues to enhance its mirrorless, 35 mm format cameras – it now boasts a resolution of up to 61 megapixels without compromising its dynamic range. Compare this to the first series-ready digital cameras which, at the end of the 1990s, offered a resolution of around 1 megapixel.

robust metal housing. Their low weight means photographers can still use several focal lengths, whose optical design is perfectly calculated in line with the corresponding image field to easily meet very high quality demands.

Even in poor light, the OLED display with its digital depth-of-field counter and focus distance is just what photographers need. ZEISS was the first lens manufacturer to bring this technology to the market. "We had to install special firmware to ensure electronic communication with the Sony camera and optimize readability in different ambient settings," says Dr. Zellner. Until now, photographers have been calculating depth of field using either their own experience or tables with the following parameters: focal length, sensor size, focus distance and aperture. Now, they can simply use the display to do so. The photographer can also rely on the tremendously fast and quiet autofocus to capture fleeting moments.

The Batis lenses feature elaborately integrated elements for dust and splash protection, which make them well-equipped to face the tough conditions of outdoor photography. This is achieved during production, by adding special felt and rubber seals to them. Dr. Zellner experienced this firsthand: "At the beginning of September, I was caught off guard by a snowstorm when hiking in the Alps. I always have my camera and lenses out so that I don't miss out on any great shots – even though my Batis lenses were exposed to snow and hail, they made it through the experience unscathed." ■

Photos taken by Ed Norton that showcase what the ZEISS Batis lenses can achieve

1 / IMAGE DEFINITION
High microcontrasts across the entire image. For exceptionally crisp shots.

2 / NATURAL COLORS
Super-transparent lenses with the ZEISS T* multi-layer anti-reflective coating. For vibrant colors in every detail.

3 / 3D POP
Harmonious bokeh thanks to an excellent optical design. For images as real as life itself.



Ed Norton, travel photographer, has found the perfect lenses in the ZEISS Batis.

Interview Ed Norton

has been a travel photographer for over ten years. He always makes sure he takes his ZEISS Batis lenses along with him.

Mr. Norton, why did you opt for the ZEISS Batis lenses?

Ed Norton: I immediately noticed just how smooth they are to use. These are by far the best lenses I've ever had the pleasure to shoot with. I always take all five of them with me – but my favorite has got to be the 40 mm. This focal length is the closest you can get to reproducing the scene that's unfolding right in front of you.

How does the ZEISS look impact your work?

Ed Norton: I've always had a very clear idea of how a photo should be, but I've never quite been able to achieve it. That's no longer the case because my Batis lenses help me recreate the atmosphere of a particular scene. I can perfectly showcase the very

aspects I want to show. For example, the microcontrast lends my subjects even greater depth and intensity: it draws people right into the heart of the action.

I understand the lenses have to be able to withstand quite a lot while you travel?

Ed Norton: My work takes me to the middle of an arctic snowscape, a tropical thunderstorm, a dunescape or a very damp cave. Sometimes I find myself in situations where I think "Now I've really gone and ruined my equipment." But somehow it makes it through to the other side unscathed! I'm starting to believe that these lenses are invincible!

How do you rate the haptics?

Ed Norton: Back when I started out in the field, my pack was about twice as heavy as it is now. Today I carry five great lenses. Not only are they lighter and more rugged, they also offer many more options. This is a

dream setup – and not just for travel photographers.

The lenses offer fast autofocus ...

Ed Norton: ... that's just so important in my work! Many of the photos I've shot of street and cultural scenes are full of action. The autofocus feature of the ZEISS Batis lenses means I'll never miss a great photo op again!

What do you think of the OLED display?

Ed Norton: It's a wonderful feature. It's especially useful in low light – when the camera has trouble focusing, you can see an accurate value. So you no longer need to rely on the viewfinder.

Can you tell us a bit about the design?

Ed Norton: The Batis lenses are little masterpieces. Many other lenses have tiny switches, and corners that jut out. These lenses are just so elegant.

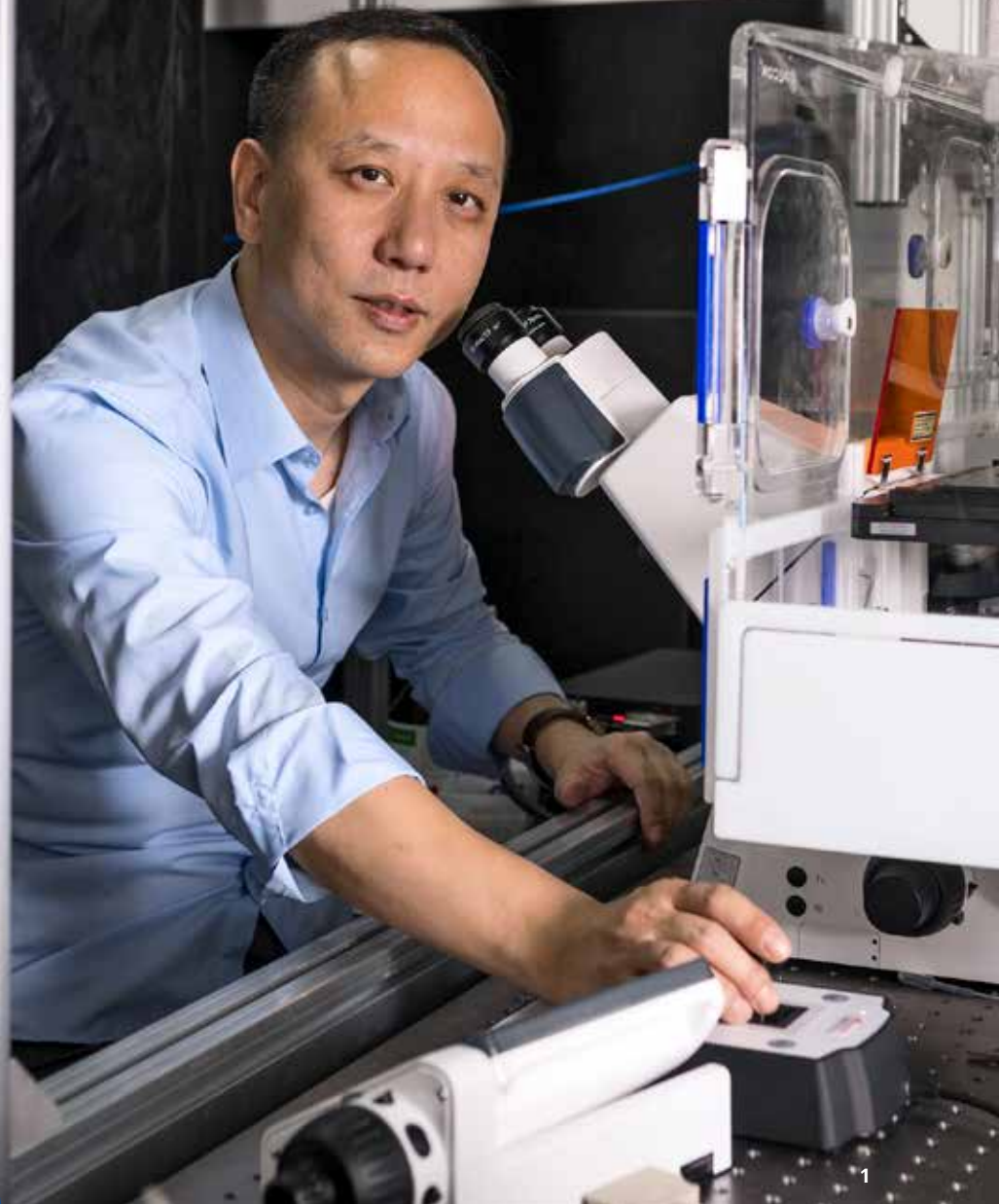
Dr. Yujie Sun,
Associate Professor
at the Biomedical
Pioneering Innovation
Center at Peking
University

A team of scientists led by Dr. Sun are conducting research into the microcosm of molecules. "We are looking into aspects such as how molecules move within a cell and how they interact with one another," says the Associate Professor at Peking University. He is leading a team of approximately 25 employees who are utilizing a range of imaging techniques to examine the tiniest structures and molecular dynamics in cells.

The ZEISS LSM 880 with Airyscan delivers fast, gentle imaging and is therefore an important system for his research. "We want to image living cells and learn about how molecules move," says Dr. Sun. He believes his greatest success thus far to be his better understanding of the interactions between proteins and DNA. If he had unlimited possibilities, Dr. Sun would combine different imaging modes to create a well-oiled setup. "This would allow us to image structural and functional information in the spatial and temporal resolutions, as well as image deep within a specimen," he says.

Dr. Sun saw the biggest challenge to be big data. Fast and high-definition imaging processes deliver tremendous data volumes, many of which are irrelevant. "Artificial intelligence could help us filter out useful data." This would allow us to gain an even better understanding of the microcosm of molecules. ■

**The dance
of the
molecules**



1



2

**1 /
FOCUSING ON THE
SMALLEST DETAILS**

Dr. Sun uses cutting-edge imaging technologies to investigate the microcosm of molecules.

**2 /
BIG DATA**

Dr. Sun believes the greatest challenge lies in the automatic analysis of the considerable data volumes being generated.

ZOOM > IQR



MS ROALD AMUNDSEN
in Alaska's Tracy Arm Fjord



A Research Lab on a Cruise Ship

The MS Roald Amundsen is one of the two new hybrid expedition liners in the Hurtigruten fleet. The ship transports tourists as well as scientists and is named after the Norwegian explorer who, in 1911, was the first to cross the Antarctic and reach the South Pole.

Besides analyzing seawater, plankton and hazardous objects like microplastics, the scientists give talks on flora and fauna, as well as culture and history. This way, they can give passengers more information about the places they're visiting, like the fjords in the Antarctic.

The onboard Science Center is open to all passengers and features seven ZEISS stereo microscopes and a ZEISS light microscope with polarization contrast. There's also a virtual reality station and big screens that showcase live images taken by the underwater drones used to explore the animal kingdom. Guest scientists will soon be working in the lab and letting passengers take part in their research. Dr. Richard Kirby, project leader for the Secchi Disk study, is scheduled to come aboard in February 2020. ■



The FASCINATING SOUTH POLE creates unforgettable moments for passengers.

Hambots for Quality Assurance

ZEISS unveiled its new concept for horizontal measuring machines at the Car Body Forum in Shanghai. The horizontal arm machines (HAM) can perform your measuring tasks like robots, or "hambots." The ZEISS CALENO was presented as the first system of this new generation. It combines the precision of a ZEISS coordinate measuring machine, including a multisensor system and an automatic tool changer, with functions for integration and collaboration in a quality management and production system. Its diversity and high performance deliver faster travel speeds, accelerations and precision in measuring labs and production halls. The EagleEye optical system in the ZEISS CALENO makes it possible to reduce the measuring time by up to 80 percent (based on a benchmark for characteristics measurement) – without compromising on quality or accuracy. Jie Ping, Head of IQS Sales & Service in China, welcomed more than 50 customers from China and Japan to the international forum. He spoke about the latest trends in the car body industry. Dr. Kai Udo Modrich, Head of the Car Body Solutions FoB, discussed the full range of new ZEISS products for carmakers and suppliers with the attendees. ■

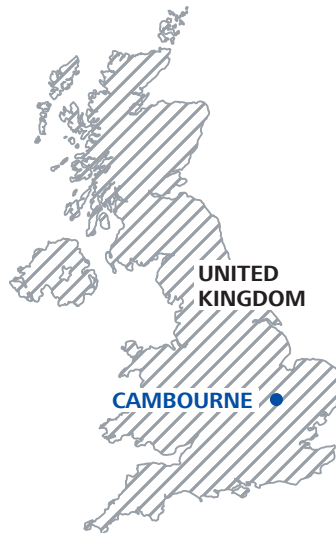


TRADE FAIR VISITORS look on as the ZEISS Caleno is unveiled.



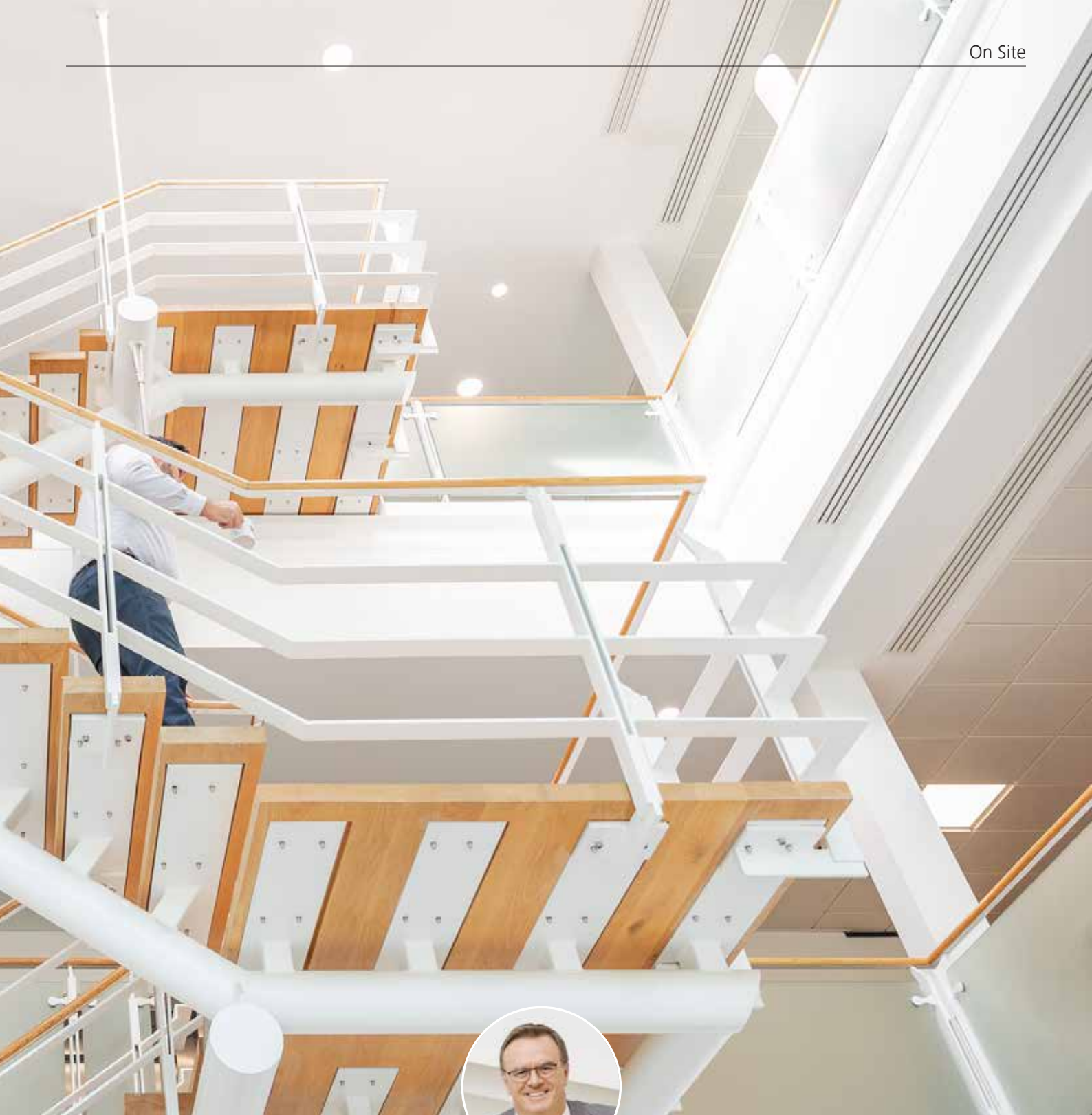
Flexibility for the Future

Designed for the modern world of work, the new ZEISS location in Cambourne is boosting efficiency on the future-oriented British market.



TRANSPARENCY
The spaciousness of the new ZEISS site in Cambourne exudes a pleasant sense of openness.





Where can you find a university with 107 Nobel prizes to its name – more than any other university in the world? Here's a hint: Charles Darwin, Isaac Newton and Stephen Hawking all worked here. The answer, of course, is Cambridge. And since August 2019, ZEISS has been operating a new location just ten miles from this British crucible of knowledge – one with a modern work culture that aims to promote productivity, teamwork and customer relationships.

The UK is one of ZEISS's most important markets. Annually, the company generates over €150m in revenue here. What's more, the first ZEISS location built outside of Germany was in the UK – 125 years ago!

A modern working environment should foster flexibility and agility //

Paul Adderley,
Head of Sales and Service

Today, about 200 of the 600 ZEISS employees in the UK work at the Cambourne site. Regardless of changes to the political map of Europe, this success story shows no signs of ending: "ZEISS will continue to be there for its customers in Britain," said Dr. Jochen Peter, a member of the ZEISS Executive Board, at the site's opening ceremony. "We feel as committed to our activities in Britain as we do to the ZEISS brand values." In addition to a large proportion of the RMS (Research Microscopy Solutions) SBU's electron microscope production, the Service and Supply Center (SSC) is now also housed in the site's Building 1030 in Cambourne.



1 /
COLLABORATION
Co-working stations encourage teams to get creative.

2 /
COMMUNICATION
Straightforward solutions are developed in the open-plan office.

3 /
CONCENTRATION
Employees enjoy flexible working in the quiet zones.

Spread over 4,000 square meters and three floors, the building features 16 meeting rooms, a modern open-plan office with co-working desks, and relaxation spaces. It's a design that encourages teamwork and enables a lean manufacturing process. Visitors can witness microscope work sequences firsthand at the site's demo center.

ARCHITECTURE THAT PROMOTES TEAMWORK

The building itself was designed to be spacious and let in plenty of natural light in order to combine a pleasant working environment with positive customer experiences. Daniel Aldridge, Managing Director of ZEISS RMS, refers to the building's "wow factor" – which you can feel the second you step through the door, and it reflects the ZEISS company culture. "We are working on ever more virtual, international teams. This new workplace offers us plenty of opportunities to interact as a team." Aldridge lists some examples: co-working desks for ad



Customers from science and industry visit us regularly //

Dr. Veronika Kugler,
Head of the ZEISS Microscopy Customer Center

hoc discussions, interactive monitors for Skype meetings, and chairs with an extra-high backrest for taking calls away from your desk. There are one-on-one cubicles for confidential conversations and a bean bag room for more laid-back meetings.

"A modern working environment should foster flexibility and agility," adds Paul Adderley, Head of Sales and Service. "When you have state-of-the-art IT infrastructure at your fingertips, it becomes much easier to take advantage of such opportunities." He says it was important to encourage teams to get up from their desks and move around. The outdoor areas are "a fantastic opportunity for walk-and-talk meetings" in nature, particularly as the business park is adjoined by a nature reserve.

AN ADMIRABLE ECOLOGICAL FOOTPRINT

In addition to all of this, measures were taken to ensure the building's CO₂ emissions remained low. LED lighting was installed



4



5



6



7

4 / PERFECTION
The final inspections in the lean production processes are performed in 26 fields.

5 / PRECISION
A Class 6 cleanroom was set up for microscope building and inspections.

6 / EQUIPMENT
All the equipment is on display in the demo rooms.

7 / FLEXIBILITY
In the Assembly area, a gantry crane can be used to move components any which way.

throughout, a more efficient heating and air-conditioning system was put in, and charging stations for electric cars were added. "These investments will pay off in the medium term," says Adderley. Our colleagues over at SBI helped us get this off the ground very quickly.

The demo areas in the customer center are an important part of the new ZEISS site. "Customers from science and industry regularly visit us for demos," says Dr. Veronika Kugler, Head of the ZEISS Microscopy Customer Center. "As the building is modern and spacious, we now have another area in the lab to store the devices we need for preparing samples. And there are always several ZEISS products at hand that we can use to showcase complete solutions and work processes. Kugler also praised the transport links into London and to Stansted Airport. "Our new location is within easy reach from the major London airports. This is particularly important for our customers with busy schedules, who need to squeeze their product presentations into a single day."

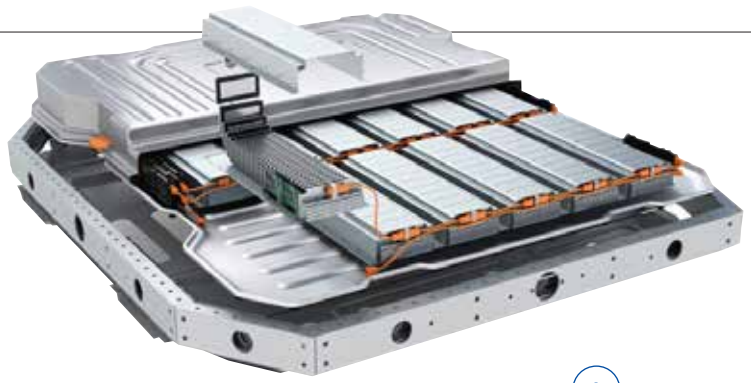
Andrew Hurley, National Service Manager of the medical division, has already had positive feedback from sales representatives for dental microscopes. "They were very impressed. We're looking forward to welcoming MED customers to Cambourne and getting to use our demo area." Hurley also appreciates the social aspects of the design: "The kitchen nook is excellent! You get the chance to talk to people there who you probably never even saw in the old building." No-one at Cambourne eats alone at their desk. One thing is clear for Aldridge: "Our cafeteria has become the heart of the building." ■

Precision – A Success Factor

The automobile industry is in the midst of a transition, which presents electric car manufacturers with a new set of challenges. Quality assurance is also affected as the need to ensure precision in e-mobility becomes more pronounced. ZEISS is here to help, with its new range of ZEISS eMobility Solutions.

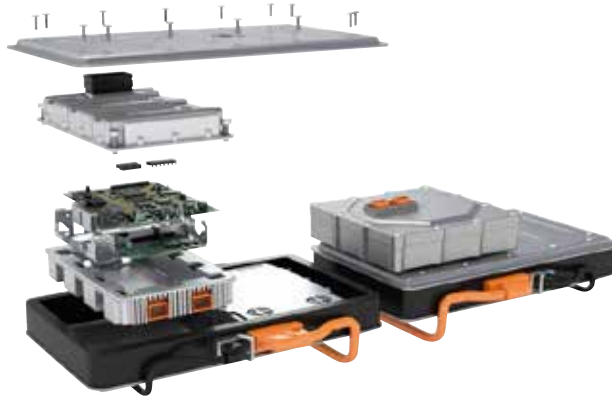
While a combustion engine comprises as many as 1,400 parts, just 200 go into an electric motor, all of them highly sophisticated. But it's not just electric engines – components like batteries, power electronics and drives all work with very narrow tolerances and great demands are made of their material composition. This means battery microstructures need to be analyzed, and tiny components inspected to ensure they are correctly positioned alongside the electronics. This is essential for ensuring safety: "Even the slightest defect can end in disaster," says Bob Chen, Project Manager for eMobility Solutions, as he recalls a time of exploding smartphone batteries.

When it comes to quality assurance for these components, ZEISS has assumed a unique role as a complete solutions provider: Light, electron, X-ray, coordinate measuring machines and optical 3D scanning metrology solutions, as well as computed tomography, are all used to analyze, measure, digitally capture and assess components. ZEISS has brought all of these solutions together to create the ZEISS eMobility Solutions range. ZEISS thus offers a unique, holistic package of measuring and inspection solutions for all e-mobility components.



1

BATTERIES
The microstructures are analyzed by ZEISS eMobility Solutions.

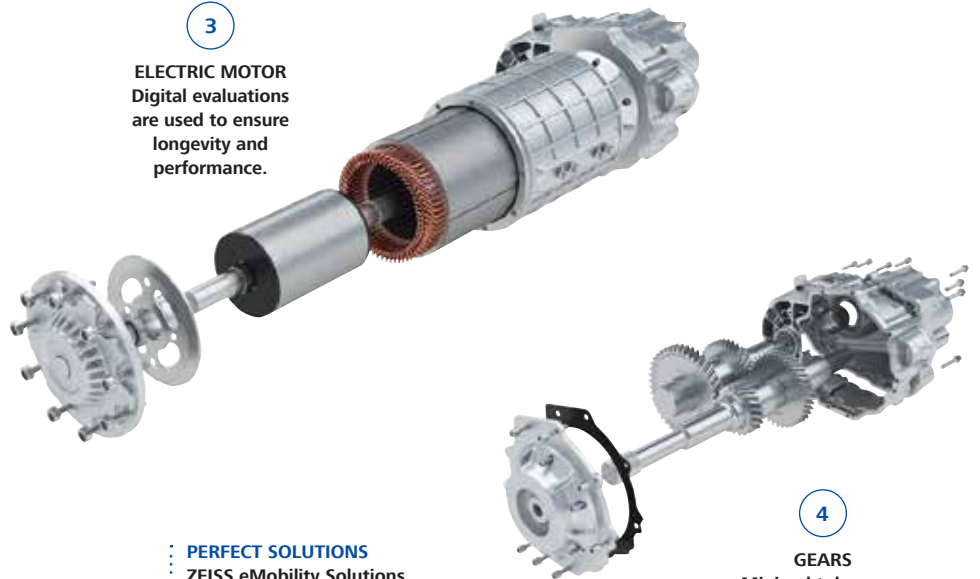


2

POWER ELECTRONICS
Tiny components are checked to ensure correct positioning.

3

ELECTRIC MOTOR
Digital evaluations are used to ensure longevity and performance.



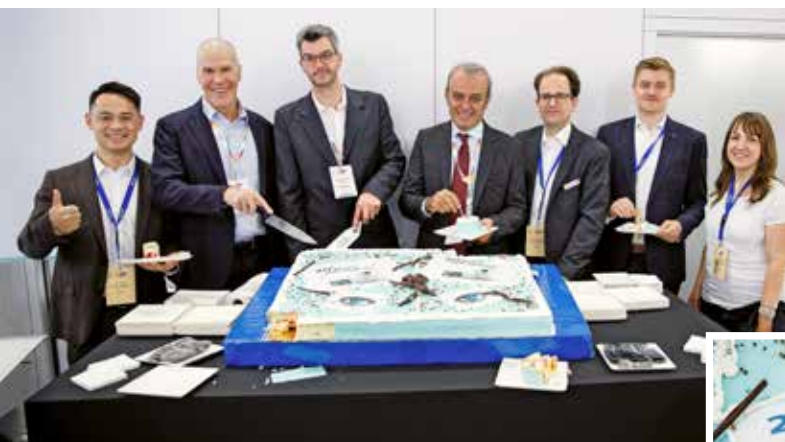
4

GEARS
Minimal tolerances are measured using optical 3D scanning technology.

PERFECT SOLUTIONS
ZEISS eMobility Solutions is a unique range of measuring and inspection services for the electric vehicles industry.



ZOOM > MED



THE ZEISS IOLMaster is celebrating an anniversary! Optical biometry at ZEISS is celebrating its 20th anniversary with customers in Paris at the most important European trade show, the European Society for Cataract and Refractive Surgeons (ESCRS). Like any great anniversary, there will of course be a cake.



20 Years of Biometry – a Measuring Process That Revolutionized Eye Care

More than 1 million working hours put in by ZEISS developers, more than 800,000 test measurements performed in the lab and more than 150 million calculations: the IOLMaster has been a success story for 20 years, earning the trust of doctors in over 130 countries – what a great reason to celebrate.

The first ZEISS IOLMaster was shipped on 14 September 1999. It marked the beginning of optical biometry, which the company still shapes today. But as is so often the case, ZEISS success stories are based on partnerships with scientists and doctors. This is also true for optical biometry, which was developed on the basis of an intensive collaboration with Professor Adolf F. Fercher from the Institute for Medical Physics in Vienna. Fercher is hailed as the father of the short coherence method which, in 1986, allowed him to measure the human eye for the first time using laser interferometry.

ZEISS revolutionized diagnosis and surgical planning for cataract when it launched the IOLMaster biometer. This eye disease is treated by replacing the natural cloudy lens with an artificial intraocular lens (IOL). The visual outcome of cataract surgery hinges on selecting the right intraocular lens. To calculate the IOL, the eye's length is measured



conventionally using ultrasound – an uncomfortable procedure for patients whereby the doctor uses a probe to “prick” the eye, which must be numbed with drops. The ZEISS IOLMaster was the first device to enable contactless, high-speed measurement. Precision was considerably boosted as compared with the ultrasound method: the IOLMaster 700 almost always manages to determine the IOL so precisely that the patient no longer needs to wear glasses – an outcome that will never be achieved with ultrasound. The IOLMaster 700 generates a section image that captures the eye's full length, from the cornea to the retina. In addition to measuring the corneal radii, in a process known as keratometry, the measuring results can be entered directly into the system to select the appropriate IOL. Digital solutions such as the new ZEISS EQ Workplace can be used to calculate the IOL.

The IOLMaster was used to completely revise the workflow for preparing a cataract surgery: While ultrasound measurements must be taken by a doctor, the IOLMaster can also be used by other medical staff to take measurements. This frees up a lot of the doctor's time.

If you ask the Biometry team how the ZEISS IOLMaster success story began, they'll tell you it all started with “passion and innovation.” Proof of this can be found in the 50 software releases that the team launched over the last 20 years. And there's no end in sight. ■



Eleven KINEVOs at once

The ZEISS team has successfully installed 11 new ZEISS KINEVO systems at Barrow Neurological Institute (BNI) – that's more systems than it has set up at any other hospital! The BNI in Phoenix (USA) is a key global player in neurosurgery and a longstanding ZEISS partner for scientific and clinical matters. The team of doctors integrated the ZEISS KINEVO 900 robotic visualization system during the development process. ■

An award-winning idea

Heike Joithe from Quality Assurance at the ZEISS Medical Technology site in Berlin teamed up with Mechanical Production Shift Manager Stefanie Schwind and Alexander Oertl from IT. Together, they came up with an idea for a simplified re-sterilization process that prevents IOLs from having to be scrapped. Guillaume Gasc, Head of the Competence Center in Berlin, spoke about the positive effects: “We no longer need to scrap any products following sterilization. This reduces costs to the tune of a few hundred thousand euros, and it boosts efficiency.” The idea for a cross-divisional team was honored by the employee suggestion program. ■



GOOD IDEAS REALLY PAY OFF: The ZEISS team at the Berlin site is delighted with its award and the greater efficiency it has achieved.

“ Workday considerably reduces our paperwork and allows us to access key HR data from a single source

Niranjan Maharajh,
Director of Systems Engineering,
Design Verification and Validation,
Carl Zeiss Meditec, Inc., Dublin



“ Workday lets me see where someone is sitting, what their job is and who their manager is

Jaime Cunningham,
Recruiter, Carl Zeiss Vision,
Inc., Kentucky

HR Now Faster and More Business-Oriented

ZEISS's employees are essential to its success. That's why TEAM is one of the four cornerstones of the ZEISS Agenda 2020. HR is now gaining one innovation that will raise the standard of its teamwork.



“ I can now use Workday to **request time off** – and it’s so easy! My **manager** is immediately **notified** and can **process** my request in minutes. That means no more annoying emails – and I can check the status of my request whenever I want.

Jay Elepano,
Product Manager
IQR, Oberkochen

What will be improved?

You’ll be able to access your personal data and make any changes yourself – quickly and easily

A range of automated processes will replace time-consuming admin – standardized digital processes instead of confusing paperwork

The same HR processes for all – quick, easy and fair

Find colleagues and contacts with ease, and view them at a glance: filter by site, job, team and more

User-friendly dashboards will replace hours of preparation in Excel and PowerPoint

Our US colleagues are already using Workday’s digital HR services on demand. They told us what they think of the system.

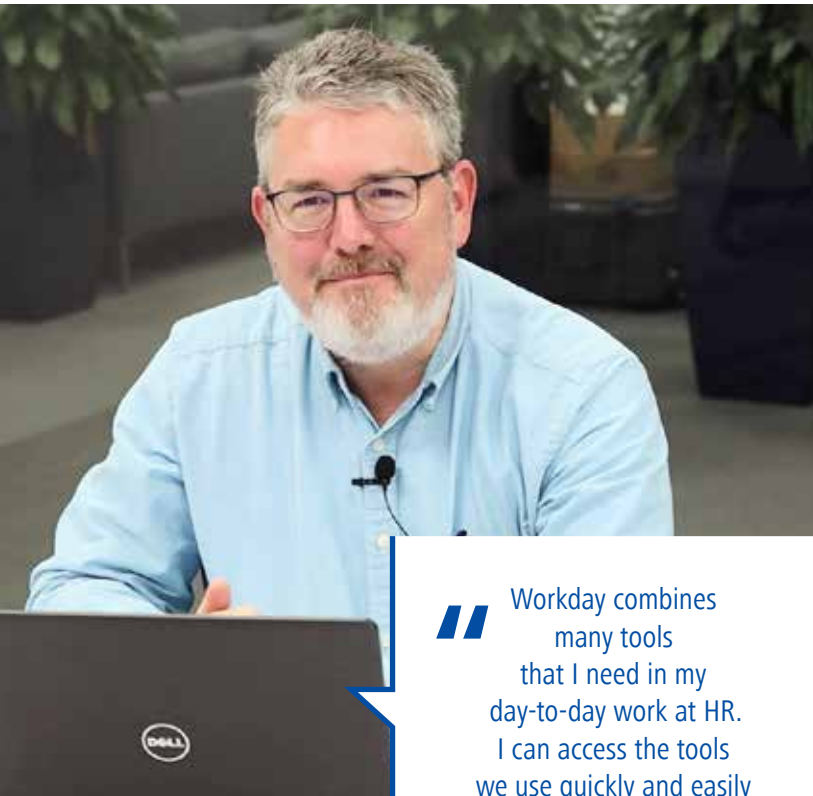
The dynamism prompted by the ZEISS Agenda 2020 has spread to HR. The aim is to strengthen Team ZEISS – by making HR tasks faster, more modern and more business-oriented.

The creation of global standards for HR processes and the Group-wide launch of the HR software Workday are key elements of this process. ZEISS employees in the USA already use this leading global solution, which enables modern HR services on demand. Employees can now perform basic HR tasks quickly and easily in the system, or trigger them via a workflow, e.g. to amend their personal data or request time off. This will be based on standardized, lean HR processes.

“We have included colleagues from the HR departments of all segments and regions in our comprehensive approach. Together, we looked at HR business processes and identified areas where there is room for improvement,” says Franz Donner, Head of Corporate Human Resources.

New structures have been set up to this end in Germany as a “lighthouse” project for the whole group. This is based on the new HR Operating Model. Employee support and HR management for all segments and business units will be pooled to form one overarching area: HR Business Services. This area will be responsible for a wide range of tasks that HR deals with every day. It will also lighten the operational HR workload for HR Business Managers, who will then be able to focus squarely on providing strategic support for managers on people and leadership topics in the business units.

The aim is to set up a modern HR concept at ZEISS that will benefit all employees, managers and the company as a whole. The changes primarily concern digitalization and the standardization of administrative HR processes. They are expected to be in place by summer 2020. The focus will then be on strategic HR processes such as talent and performance management, recruiting, compensation and additional services. ■

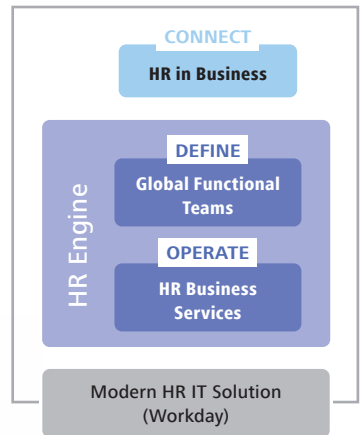


“ Workday combines many tools that I need in my day-to-day work at HR. I can access the tools we use quickly and easily **either on my PC or via an app**”

Steven Braman,
Technical Trainer, Carl Zeiss Meditec, Inc., Dublin



Future HR Roles



A single global data source:
All your data at a glance



Global standardization is coming:
Optimized, lean HR processes

HR SERVICES ON DEMAND
Employees will soon be able to use a central, digital entry point for all HR topics and processes, which are clearly structured, to find the information they need easily, perform some tasks themselves (e.g. changes of address), and trigger others.

Cloud-based:
This versatile system makes data available anytime, anywhere

Our US colleagues are already using Workday's digital HR services on demand. They told us what they think of the system.

Workday lets me create important reports in a single click – which makes my life as a manager much easier!

Fotios Pantis,
Vice President of Finance & Treasurer
Carl Zeiss Industrial Metrology, LLC, Minneapolis

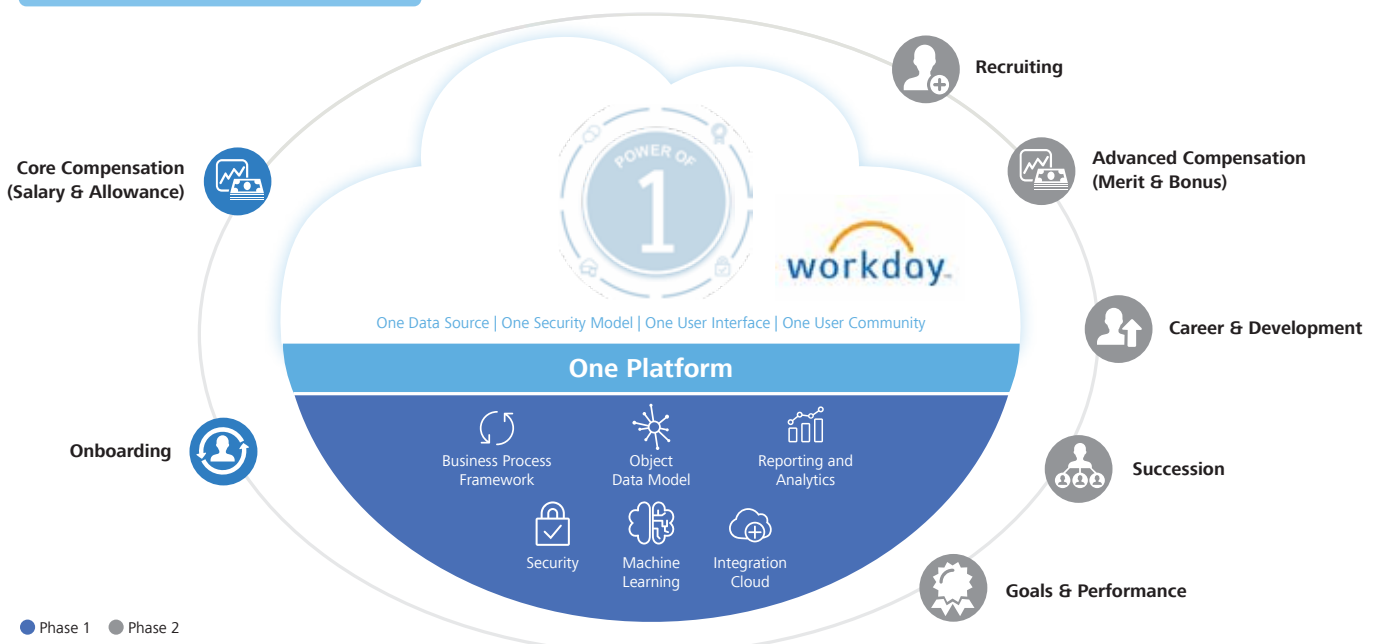


I wasn't sure about Workday at first. But it's so simple and intuitive that it didn't take me very long to get used to it!

Ryan Kashubara,
Lean Project Engineer
Carl Zeiss Vision, Inc., Kentucky

BACKBONE TECHNOLOGY

Workday, a leading cloud-based HR platform, will help ZEISS drive the digitalization of its HR services. It not only offers modern and easy-to-use self-services for all employees and helps to make more insight-driven decisions, it will also establish consistent standards for HR at the ZEISS locations worldwide.



**WHY WE
PUSH THE LIMITS
OF WHAT
IS POSSIBLE.**

