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**ZEISS Celebrates 175 Years of
Technological Success: New Innovation
Center Opens in California**

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New Innovation Center Opens in California



Photo by Jason O'Rear

When university mechanic Carl Zeiss opened his precision mechanics workshop in Jena, Germany 175 years ago, he could not have foreseen how his work would transform the world of optics. The company that grew out of its founder's passion for functional, science-based discoveries – the ZEISS Group – is a global technology leader today.

ZEISS innovations have supported breakthrough medical and diagnostic treatments, the development of leading eyeglass lenses, camera lenses and binoculars, and award-winning EUV lithography for the chip industry that has made ZEISS a driver of digitalization.

Every year, millions of surgeries worldwide are performed with ZEISS technologies. More than 30 Nobel Prize laureates have used ZEISS microscopes. A ZEISS lens captured the first photo of a man on the moon. Numerous Hollywood blockbusters have been filmed with ZEISS lenses. Nearly every high-performance chip in cell phones and vehicles is a product of ZEISS lithography optics.

The collaborative and entrepreneurial company culture underlying these achievements also inspired the latest ZEISS milestone: the investment in the new [ZEISS Innovation Center in Dublin, California](#). Channeling the vision of Carl Zeiss,

the building is the ZEISS Group's newest innovation incubator. The Center, completed this spring, is designed to harness the expertise of employees, customers and research partners across businesses, technologies and disciplines. The goal: to develop the next generation of groundbreaking discoveries in optics and optoelectronics.

The Innovation Center brings together nearly 700 engineers and scientists, as well as sales and customer service professionals from ZEISS businesses in the San Francisco Bay Area. Combining the breadth and depth of ZEISS expertise in one location is a boon for customers, research partners and ultimately, consumers. The Center's Bay Area location is also of major strategic significance, part of a global investment strategy focused on growth and research centers to support the company's commitment to digitalization and sustainability.

"This is an essential investment for ZEISS, leveraging our global



resources to further impact customers locally in one of the largest technology innovation hubs in the world,” said Euan Thomson, Head of Ophthalmic Devices for the ZEISS Medical Technology segment. “The Center will clearly foster collaborative opportunities that will drive the development of solutions and partnerships to improve the quality of care for patients and customers in the US and all over the world.”

The US headquarters of the [ZEISS Medical Technology business](#) is based at the Innovation Center; the business supplies healthcare professionals with technologies and application-oriented solutions, including implants and consumables, to diagnose and treat

eye diseases. The company also provides innovative visualization solutions for microsurgery and is actively shaping digital solutions in healthcare.

In addition to Medical Technology, the Innovation Center houses the [ZEISS X-Ray Microscopy](#) business and the [ZEISS Microscopy Customer Center](#) Bay Area, capitalizing on market and R&D opportunities in materials research, the life sciences and industrial applications. Also represented in the center are [Process Control Solutions](#), part of the ZEISS Semiconductor Manufacturing Technology segment and an industry synonymous with Silicon Valley.

An award-winning track record of collaborative scientific and technological accomplishments

The mission to improve the lives of individuals and society at large has long permeated the research and investment priorities at ZEISS. The enterprise allots over 10 percent of its annual revenue to research and development, and in fiscal year 2019/2020 it invested 13 percent. For decades now, the prioritization of R&D investments has paid off.

EUV lithography for high-performance microchips

For more than 20 years, ZEISS engaged in intensive collaborations with international partners such as ASML, the leading supplier of lithography systems. ZEISS also joined forces with additional European companies and research institutes to introduce EUV lithography, a revolutionary manufacturing technology that yielded high-performance microchips. EUV technology allows for major advances in chip miniaturization, performance and energy efficiency and, as a result, of digital end devices and infrastructure. These efforts were recognized in 2020 when ZEISS scientists, along with their research partners at TRUMPF Lasersystems for Semiconductor Manufacturing and Fraunhofer-Institut für Angewandte Optik und Feinmechanik IOF, won the [German Future Prize](#). ZEISS was also the first company represented in two of the three shortlisted teams since the Prize was first awarded in 1997.



Photo by Jason O'Rear

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Florian Mezger, Head of Shared Services & HR North America for ZEISS

The co-location of ZEISS microscopy and medical businesses offers particularly valuable collaboration opportunities in image processing, machine learning and artificial intelligence – areas in which ZEISS plans to leverage its experience, as well as its business and research connections across the globe. The first collaborative projects to emerge organically from the teams’ co-location have already been initiated – despite limited interaction due to pandemic-related restrictions.

An optimal US location to cultivate collaboration, entrepreneurship and sustainability

At the heart of the 20,000-square-meter Innovation Center is a large, bright atrium that connects multiple spaces for creative teamwork, meeting rooms and offices. Addi-

tional areas are devoted to hands-on and virtual customer experience and technology demonstration areas, research laboratories, and service, training and production facilities.

This is precisely the kind of interactive work environment designed to encourage new partnerships among, customers, research partners and employees, said Florian Mezger, Head of Shared Services & HR North America for ZEISS.

“This Center represents an important step in strengthening the use of our innovative potential across all technologies,” he said. “Optical technologies are key to progress in the life sciences, medicine, IT, telecommunications, automobile, consumer products and many other fields. We see multiple avenues to open up new market opportunities



Photo by Jason O'Rear

– particularly in the digital environment.”

That is why expanding and further investing in the Bay Area makes perfect sense, he said. More than 200 of the Innovation Center employees already work in the R&D space; approximately 560 ZEISS patents are based on research conducted in California, and approximately 5,000 publications relate to innovations designed and built in California.

“With this site,” noted Florian Mezger, “ZEISS is building on its already strong R&D track record and expanding its presence near important research centers and in the entire US-American market.”

ZEISS North America employs more than 3,200 people in both the United States and Canada. In addition to Dublin, California, ZEISS has offices and facilities in Hebron, Kentucky, White Plains, New York, and Maple Grove, Minneapolis. Globally, the optical and optoelectronics leader employs more than 34,000 individuals in nearly 50 countries, with around 30 production sites, 60 sales and service companies, and 27 research and development facilities.

Like other ZEISS high-tech sites, the Innovation Center in California meets the highest sustainability standards. For a foundation-owned technology company whose core tenets include the promotion of science, the contribution to climate protec-

tion is closely linked with business activities. Solar energy powers the Innovation Center, supported by use-based light and air controls and a heat recovery system. A sophisticated water recycling and rainwater management system is another highlight.

“Assuming responsibility for the environment, employees and society is an integral part of our business philosophy,” Florian Mezger said. “That helps explain why ZEISS is so committed to actively funding research and training, reducing social and health challenges and improving the well-being of people worldwide.”

Developing the next generation of breakthrough microscopy and medical technologies

The teams based at the new Innovation Center are focused on maximizing the research-driven investments and contributions ZEISS has made across the industries it serves.

In 2013, for example, ZEISS acquired a Bay Area startup, Xradia Inc, that had pioneered ultra-high-resolution X-ray microscopy. This significant extension of the ZEISS microscopy portfolio added three-dimensional, high-resolution imaging capabilities for customers in academia and industry. The acquisition created what was both a challenge and an opportunity – retaining the focus and agility of a small startup while

Continuous breakthroughs in Ophthalmology and Microsurgery

Collaborative research conducted in the early 20th century by Swedish ophthalmologist and Nobel Prize winner Allvar Gullstrand and Moritz von Rohr, Head of Development at ZEISS, culminated in two milestones: the first ZEISS slit lamp, a microscope with a bright light used during eye exams, and PUNKTAL, the world’s first precision eyeglass lens featuring point-focal imagery for razor-sharp vision. The slit lamp led to the 1953 launch of the first ZEISS surgical microscope, the OPMI® 1, and to this day, ZEISS is actively shaping Ophthalmology and Microsurgery. Microsurgery’s recently launched product portfolio includes robotic visualization systems such as the [ZEISS KINEVO® 900](#) for spine and neurosurgery. Comprising more than 100 innovations and 180 patents, the system marries robotics, digital visualization and modern assistance solutions.

Microscopes that make life-changing scientific research possible

The 36 Nobel laureates that have used ZEISS microscopes include Robert Koch, who discovered tuberculosis, and Christiane Nüsslein-Volhard, who conducts research into genetic control in embryo development. Four recipients of the annual ZEISS Research Award were later awarded Nobel Prizes. Researchers worldwide continue to use [ZEISS light, electron/ion and X-ray microscopes](#) to make even the smallest structures and processes visible.

A leading manufacturer of multi-dimensional metrology solutions

The first measuring machines were derived from microscope production. In 1919, ZEISS unveiled a precision micrometer screw at the Leipzig spring fair. Today, ZEISS produces [measuring solutions](#) that include coordinate measuring machines, optical and multi-sensor systems and metrology software for the automobile, aviation, engineering, plastics and medical technology industries. Innovative technologies like the 3-D X-ray measuring machines for quality assurance are also part of the product portfolio.

leveraging the global reach, resources and brand of a leading microscopy business such as ZEISS.

X-ray Microscopy has since evolved into a key and rapidly growing part of the ZEISS portfolio. Through sustained innovation investment, the business continues to lead the market for high-resolution X-ray imaging.

“The continued focus on enabling customers to extend their research or provide solutions has ensured a successful integration, and the ZEISS X-ray microscopy business will now continue this journey in the ZEISS Innovation Center,” said Daniel Sims, Head of X-ray Microscopy. “Having a clear presence and commitment in the Bay Area lays the groundwork for future collaborations and partnerships to develop technologies and business to shape markets.”

ZEISS teams are also more strongly positioned to invite customers and

research partners to innovate together with them. As part of the new ZEISS Microscopy Customer Center Bay Area, customers and research partners can test the latest ZEISS electron, light and X-ray microscopes, both on site and virtually, and provide feedback that will inform new designs.

“Innovations in software and data management, and our swift adaptation to an enhanced virtual environment, have ensured our customers front-row seats to our latest, market-shaping technologies,” said Vimal Gangadharan, Head of the ZEISS Microscopy Customer Center North America.

The new Center houses microscopes with a direct impact on a range of applications influencing the life sciences, materials research and semiconductor markets, he said. These include the ZEISS Lattice Lightsheet 7, which images in 3D

highly dynamic live cell structures for lengthy periods; Crystal CT, the first commercially available crystallographic micro CT system for learning about grain boundaries in materials research; Cryo workflow for an unadulterated, high-resolution 3D view of sub-cellular structures; and the Gemini SEM family for analyzing sub-nanometer structures on a wide range of materials.

On the Medical Technology side, a Customer Experience Center offers an ideal environment for medical customers and partners to become familiar with and try out the latest technology and workflow solutions across the full spectrum of care in Ophthalmology and Microsurgery. Innovative devices and solutions for treating chronic eye diseases, meanwhile, are being developed in the Ophthalmic Diagnostics Competence Center, which includes research laboratories and production areas as well as training and demo centers.

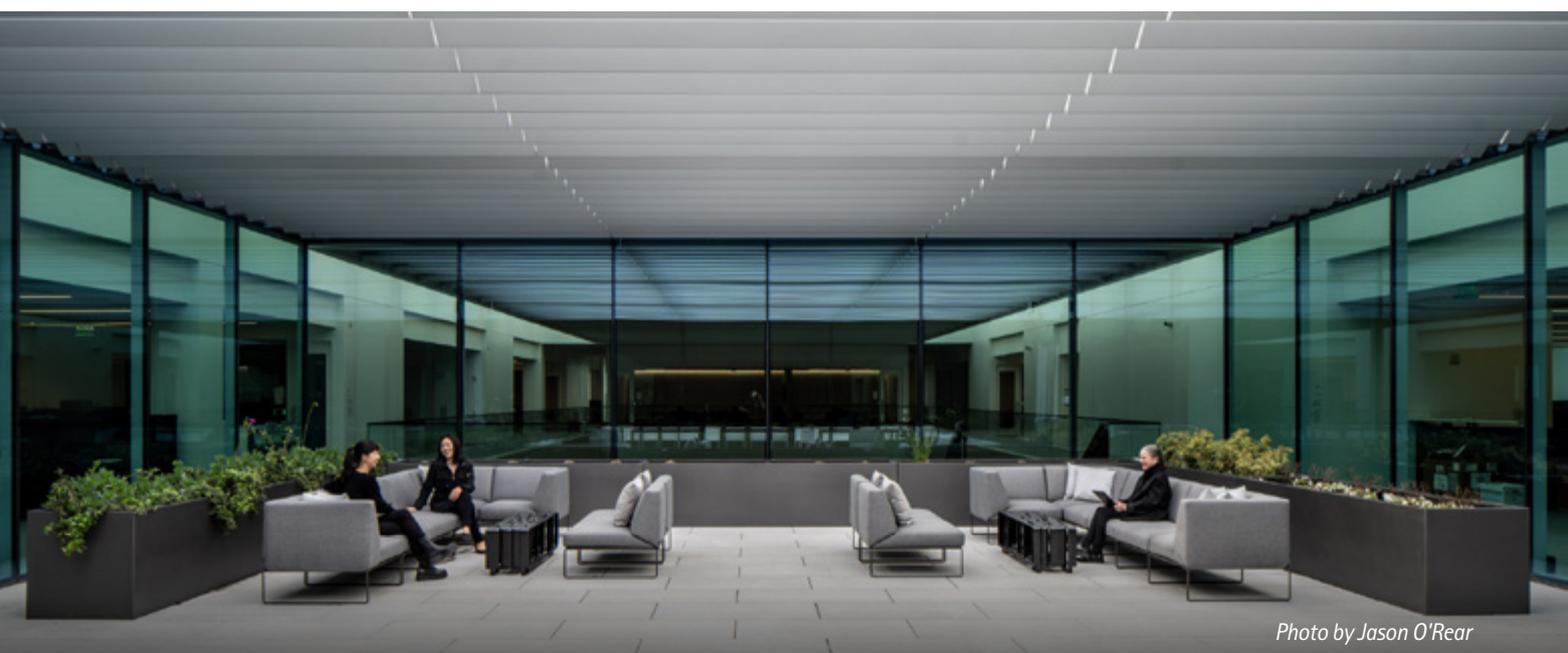


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Celebrating 175 years of ZEISS: powering innovation for the future

From the beginning, ZEISS founder Carl Zeiss, understood the value of collaborations in the development of new technologies and of close relationships with academia. The research and business partnerships he forged and fostered led to multiple scientific breakthroughs and accelerated the transformation of a small mechanics workshop into a full-fledged company.

Today, ZEISS Group is held by the [Carl Zeiss Foundation](#), one of Germany's largest science foundations. Dividends from the organization's shares promote science and teaching in mathematics, computer science, the natural sciences and technology. Support is provided for projects and individuals in the German states where ZEISS is based. The non-profit activities are overseen by an independent administration.

Over the past several years, ZEISS has been expanding, modernizing and realigning sites in Europe, the Americas, Australia and Asia. The company also is investing heavily in an optimized infrastructure, in state-of-the-art buildings and production facilities, and in accelerating the company's digitalization and sustainability. The ZEISS Innovation Center in California is the latest manifestation of this investment strategy.

The opening of the Innovation Center coincides with the global [commemoration of 175 years](#) of

technological successes since Carl Zeiss opened his precision mechanics and optics workshop in Jena. The company will be celebrating its anniversary through a variety of activities and events. Its close links to science are evident in projects such as the "ZEISS Beyond Talks" interview series. In these interviews, pioneers and eminent figures from across the globe speak about their work, their visions, their passion and topics with a major impact on the world.

ZEISS is also pooling its strategic efforts and funds to support social and educational initiatives to encourage children and young people to consider a career in the sciences and conduct open-minded research.

In Dublin, California, a grand opening will be held at the Innovation Center for customers, business and research partners, as well as for community dignitaries. But for now, the primary focus is on moving employees into their new work environment and opening the building to visitors who have been eager to experience the Center in person.

"Moving almost 700 employees into the new building was only possible in stages due to the pandemic," said Florian Mezger, the Head of Shared Services & HR North America. "Now that restrictions are being lifted, we look forward to taking advantage of the many opportunities to build new relationships and networks, shape markets and create an even greater impact for generations to come." ■

Lenses that bring movies and TV shows to life

Numerous films and series produced by streaming providers or shown on their platforms, are shot with ZEISS [cinema lenses](#). A recent example is the award-winning *The Queen's Gambit*. Other popular series and films shot with ZEISS lenses include *Ma Rainey's Black Bottom*, *The White Tiger*, *Lord of the Rings* and *Downton Abbey*. ZEISS has also won three technical Academy Awards for its cinematography lenses.

Pushing photography's boundaries

ZEISS has produced high-quality [photography lenses](#) since 1890. The iconic Tessar design, first introduced in 1902, is still the archetype for small but powerful lenses in smartphones. The photos from Gemini and Apollo missions in the 1960s were captured with ZEISS camera lenses that were specially developed for use in space. The camera lenses used during the mission formed the nucleus for the lenses that would later be developed for optical lithography.

A renowned supplier to planetariums

Well over 9,000 stars can be displayed through [ZEISS planetarium projectors](#). The first planetarium, built for the Deutsches Museum in Munich, opened its doors in 1925, drawing thousands of visitors and leading to orders from around the world. By the end of the 1930s, 27 planetariums with ZEISS projectors had been built in cities including Los Angeles, New York, Chicago, Philadelphia, Pittsburg, Milan, and Moscow. Today more than 100 million people enjoy space shows and full dome presentations in planetariums around the globe.