Press Release

When Performance Matters, It Has to Be Heraeus: Heraeus Covantics presents new material solutions and scientific contributions at Photonics West 2026

Hanau, December 12th, 2025 – At **Photonics West 2026** in San Francisco (January 20–22), Heraeus Covantics will present recent developments in high-purity fused silica and specialty fiber technologies at booth #1926 in the Moscone Center. The company continues to support demanding photonic applications through material innovations, manufacturing expertise, and active participation in scientific exchange.

Material Solutions for Advanced Photonics

Suprasil® Plate product family marks the launch of a new generation of synthetic fused silica plates engineered specifically for high-performance laser applications in the near-infrared wavelength range. Thanks to an improved manufacturing process, these smart plates feature an optimized thickness-to-area ratio for size flexibility, tailored for optics in demanding optical applications. The very low absorption and high resistance to power density improve the performance of optical components. At the same time, an innovative raw material approach ensures short lead times, high size flexibility, and an attractive total cost of ownership – a smart solution for industrial high-performance optics.

With the new **large-format Fluosil® preform**, Heraeus Covantics sets a milestone in fused silica production. For the first time, manufacturers benefit from preform dimensions that support entire fiber batches, combined with consistently high material quality across the full cross-section. Manufacturers of specialty fibers benefit from significantly lower setup costs, noticeably higher throughput, and reduced process costs – a crucial prerequisite for economical multimode high-performance fibers, for example in medical technology, scientific research, or industrial materials processing.

In addition, **Hollow Core Fiber** technology sets a new benchmark for high-power laser delivery. By guiding light through an air channel instead of glass, these fibers overcome fused silica damage thresholds and enable efficient transmission of ultra-short pulses without compromising quality. They offer superior mode stability, ultra-low chromatic dispersion, and minimal nonlinear effects for distortion-free propagation. With a transmission window tailored to e.g., 1,000–1,200 nm and manufacturing to the tightest tolerances, they ensure consistent, reliable performance, opening new potential for ultrafast laser systems and sensitive photonic technologies.

Scientific contributions at the SPIE Conference

Heraeus Covantics will contribute four presentations to the SPIE Photonics West technical program, including two invited talks.

Invited Talk: “Characterization challenges, and trends in specialty optical fibers”
Speaker: Dr. Andreas Langner
Time: Tuesday, January 20, 2026 • 1:30 PM – 2:00 PM
This presentation will discuss current challenges in the metrology of increasingly complex fiber designs, including fluorine-doped and hollow-core structures. It also highlights manufacturing techniques such as MCVD, PCVD, and plasma outside deposition, which are essential for developing these fibers.

Talk: “Investigation of ammonium chloride crystal formation in hollow-core fibers made of chlorine-rich quartz glass”
Speaker: Dr. Andreas Langner
Time: Thursday, January 22, 2026 • 11:50 AM – 12:10 PM

This talk presents findings on the formation of ammonium chloride crystals at fiber end faces, which can occur during the processing of hollow-core fibers using chlorine-rich quartz glass. The contribution explores causes, testing methods, and approaches to prevent crystal growth and maintain fiber integrity.

Poster Presentation: “Innovative multi-mode step-index fibers for improved transmission of blue and green laser radiation”
Speaker: Dr. Andreas Langner
Time: Tuesday, January 20, 2026 • 6:00 PM – 8:00 PM
This poster introduces multimode step-index fibers developed to improve transmission of high-power blue and green laser light. Based on an undoped core and fluorine-doped cladding, the fibers show high resilience and optical stability, particularly for applications such as copper and brass welding.

Invited Talk: “Enabling precision medicine: Use cases of specialty optical fiber in laser-based therapies”
Speaker: Dr. Adriana Huerta Viga
Time: Wednesday, January 21, 2026 • 2:05 PM – 2:35 PM
The invited talk highlights how specialty fused silica fibers contribute to modern medical treatments, including laser-based surgery and diagnostics. The presentation focuses on how tailored fiber designs enable minimally invasive procedures and support precise, reliable energy delivery.

Meeting Point at the Moscone Center
Heraeus Covantics welcomes visitors to booth #1926 at Photonics West 2026 to learn more about its latest developments in fused silica and specialty fiber technologies and to discuss individual requirements for photonic systems and applications.

More information: https://www.heraeus-covantics.com/company/trade-shows-and-events/photonics-west-2026

About Heraeus

Heraeus is a globally active, family-owned technology group. Based in Hanau, Germany, the company comprises 15 operating companies whose products and services span the Business Areas of Metals & Recycling, Healthcare, Semiconductor & Electronics, and Industrials. In fiscal year 2024, Heraeus generated revenues of €29.4 billion and employed roughly 15,200 people across 40 countries. This makes Heraeus one of the top ten largest family-owned enterprises in Germany.
With deep expertise in advanced materials, Heraeus is a leader across key global industries. The group ranks among the foremost providers of precious metals, supplies quartz glass for the semiconductor and telecommunications sectors, and manufactures sensors for the steel industry. In addition, its materials and technologies for medical technology help improve the quality of life for millions of people worldwide.
Innovation is the central driver of Heraeus's success. Each year, six percent of revenues (based on revenues excluding precious metals) are reinvested into research and development. Beyond that, the company partners with leading research and educational institutions around the world.
At Heraeus, growth and sustainability go hand in hand: the company designs its own processes to conserve resources and supports its customers in operating more sustainably with innovative materials and solutions.
The group's roots trace back to 1660, when Isaac Heraeus took over a pharmacy in Hanau. Since then, the company has stood for technological progress, sustainable growth, and responsible conduct—across generations.

MATERIALS. INNOVATIONS. FOR GENERATIONS.

About Heraeus Covantics

Heraeus Covantics is a technology leader specializing in the manufacturing and processing of the industry's highest purity quartz, fused silica and other high-end materials such as ceramics and composites. With locations in Europe, USA and Asia, Heraeus Covantics manufactures semi-finished products, complex system components and custom-tailored solutions made of quartz glass, fused silica and ceramic materials. They are used in the data transmission and telecommunication industry, the production of specialty optical fibers for industrial and medical applications, semiconductor manufacturing and optical applications among others.

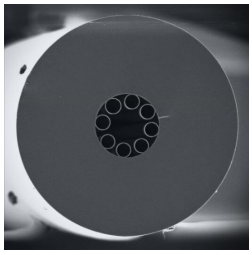

Image 1:
Caption: Break the limits of fused silica: Anti-resonant Hollow Core Fibers
Image source: Heraeus Covantics

Image 2:
Caption: Suprasil® - next generation plates – the smart way to plate-like ingot
Image source: Heraeus Covantics

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