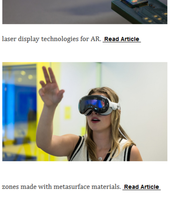
Thursday, November 27, 2025

PHOTONICS spectra

Weekly News



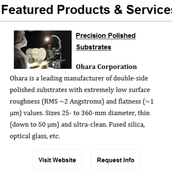


## Working Group to Push AR Laser Displays Toward Commercialization

Impending augmented reality (AR) display solutions largely rely on micro-LED technologies to help create the images that users see in the specialized lenses of AR systems. Now, the recently established Laser Display for AR working group, part of the AR Alliance, is undertaking the challenge of changing the status quo. The working group aims to bring together industry and academic partners to collaboratively advance laser display technologies for AR. **Read Article**

## Metasurface Waveguide Could Lower AR Losses and Improve Image Quality

Augmented reality (AR) waveguide displays often exhibit low efficiency caused by losses from multiple interactions between the incoming light and the input port, also known as the in-coupler, where the image enters the glass. These losses limit system brightness and clarity. To ensure bright, uniform visual output from AR devices, a team at the University of Rochester developed an in-coupler featuring three specialized zones made with metasurface materials. **Read Article**



## TRUMPF-Led Initiative Evaluates Quantum Algorithms for Laser Physics

TRUMPF, the Fraunhofer Institute for Laser Technology ILT, and the Dahlem Center for Complex Quantum at the Department of Physics at Freie Universität Berlin are teaming up to research the fundamentals of laser physics with the help of quantum algorithms. The collaborators' long-term goal is to use quantum computers to significantly accelerate the development process for new lasers in the future.

**Read Article**



## Featured Products & Services

**Precision Polished Substrates**

**Ohara Corporation**

Ohara is a leading manufacturer of double-side polished substrates with extremely low surface roughness (RMS ~2 Angstroms) and flatness (~1 µm) values. Sizes 25- to 360-mm diameter, thin (down to 50 µm) and ultra-clean. Fused silica, optical glass, etc.

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**$CO_2$ Laser Glass-Processing**

**NYFORS Teknologi AB**

$CO_2$ laser glass-processing is designed to produce high-power and sensitive photonic components and complex structures. It guarantees contamination-free processing for fiber linear, 2D and gapless array splicing, ball lensing, end-capping, and many other challenging processes. NYFORS also manufactures automated high-precision solutions for fiber preparation, such as stripping, cleaving, recoating, and end-face inspection. NYFORS offers custom workcell automation solutions.

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## More News

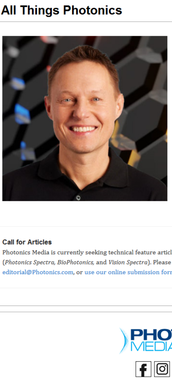
Royal Navy Commissions Drone Defense Laser Weapon

SCHOTT, AZUR Space, Bolster Material Supply Chain Amid Satellite Constellation Boom

NcodiN Lands $18.6M in Seed Round

TAU Systems Achieves Commercial Milestone in Laser-Powered Particle Acceleration

## Latest Webinars




### Solving Processing Demands for High-Bandwidth Imaging

**Thu, Dec 4, 2025 11:00 AM - 12:00 PM EST**

Explore how emerging technologies are transforming high-bandwidth imaging. This session highlights GigE Vision-to-Thunderbolt™ solutions that reduce CPU load and enable compact platforms for demanding imaging tasks. Learn how ReCDv2 allows direct data transfer from camera to memory-bypassing the CPU and OS-to support bandwidths up to 400 Gbps with minimal latency. Real-world examples will showcase how these innovations are reshaping system design for industrial, medical, and scientific imaging applications. Sponsored by Pleora Technologies.

Register Now


### Extending Zemax & CODE V: Custom Extensions and DLLs for Optical Design

**Tue, Dec 9, 2025 1:00 PM - 2:00 PM EST**

Join this webinar for an in-depth look at how custom extensions and DLLs can transform your optical design workflows in Zemax OpticStudio and CODE V. This talk will demonstrate practical tools for multi-file analysis, advanced aberration evaluation, and straylight minimization, while also introducing AI-BOLD, a next-generation optimization engine. Learn how to boost efficiency, reduce errors, and unlock new design possibilities beyond the limits of standard software.

Register Now



### Engineering the Next Generation of Large-Format High-Power Optics

**Wed, Dec 10, 2025 10:00 AM - 11:00 AM EST**

Large-format optics are the backbone of next-generation laser systems-from fusion facilities to high-energy research. Join OPTOMAN experts to learn how Ion Beam Sputtering (IBS) enables 500 mm size dielectric optics with exceptional laser-damage thresholds and uniformity. This webinar reveals the key technological challenges, solutions, and real-world applications shaping the future of large-aperture photonics. Discover how IBS optics are redefining what's possible in high-power laser performance.

Register Now



### Using Laser Welding Process Monitors to Improve Manufacturing Success

**Thu, Dec 11, 2025 12:00 PM - 1:00 PM EST**

In recent years, advanced laser process monitors have been developed to capture signals that are generated during the welding process. These systems collect real-time data - such as melt pool behavior and plasma emissions - to detect weld defects, parameter deviations, and equipment issues early on. This presentation will introduce attendees to the various types of process monitors available today, the specific defects that they can identify, and the potential advantages of implementing the technology in manufacturing and production environments. Sponsored by Aerotech.

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## All Things Photonics



### The Global Race to Commercializing Fusion Energy — With Thomas Forner

The global race to realize the potential of laser fusion is heating up. We've already seen ignition; now the question is, how do we get to commercialization? Focused Energy is working to develop Europe's first pilot plant for laser fusion by converting the former Biblis nuclear power plant into a fusion power plant. **Thomas Forner**, CEO and Co-Founder of Focused Energy, joins us to share details on those plans and to talk about the different paths nations are taking towards laser fusion.

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