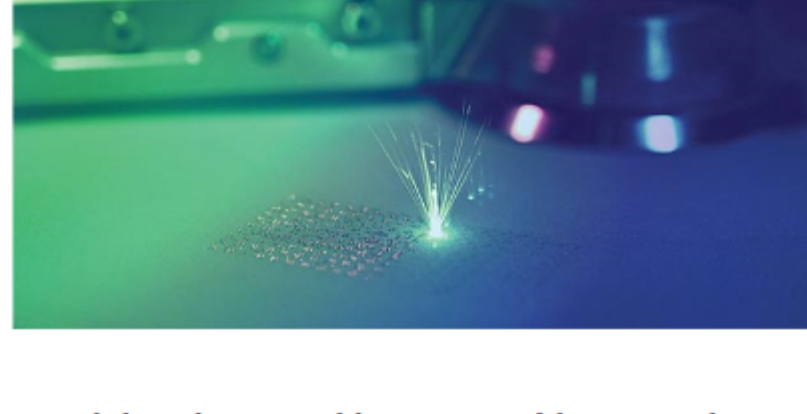




Monthly Newsletter

Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue. [Photonics.com/subscribe](https://www.photonics.com/subscribe).



Femtosecond Lasers Spur a Precision Revolution in Materials Processing

The physical parameters and versatility of femtosecond sources help to facilitate operations that are beyond the reach of more conventional laser technologies. As emitters of high-intensity, ultrashort-pulse radiation, the current class of femtosecond lasers is essential to materials micromachining

— and these lasers enable precision fabrication that supports applications across industries ranging from aerospace and defense to finance. [Read Article](#)



In the All-Data Revolution, Optical Solutions Advance Beyond PICs

As the field of integrated photonics has transformed from one of theory into one of practice, rapid progress in materials science, device design, and manufacturing processes in the past two decades has helped drive the commercialization of PICs for various applications. Today, photonic integration is characterized by multiple photonic components integrated

onto a single chip. These highly efficient, compact, and versatile devices represent a new frontier for advanced optical signal processing and communications. [Read Article](#)



Thermal Imaging Solutions Mitigate Risks to Pedestrian Safety

According to data from the National Highway Traffic Safety Administration, more than 75% of automotive-related pedestrian fatalities in the U.S. in 2021 occurred at night. This value is hardly an outlier. Nighttime pedestrian fatalities in the U.S. increased at a rate of more than 3x that of comparative daytime incidents since 2010, per the Governors Highway Safety Association. [Read Article](#)



Featured Products & Services



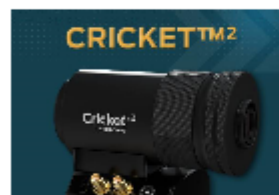
The Best Waveplates Available

Meadowlark Optics Inc.

Meadowlark Optics makes the best waveplates, having over 40 years of retarder manufacturing expertise and the ability to manufacture from a wide variety of materials to facilitate high- or low-power applications. Some materials allow retarders to be used over different wavelengths from the ultraviolet through the visible and into the near infrared.

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Cricket™ - Advanced Image Intensifier Adapter

Photonis Netherlands BV

The Cricket™ is a plug-and-play image intensifier camera

attachment device enabling low light level imaging or single photon imaging functionality and extremely high shutter speeds for every CCD or CMOS camera. Equipped with industrial-leading Photonis Image Intensifier technology, and recognized for best value, Cricket™ sets an unmatched standard for connectivity with scientific microscopes and cameras.

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Mad City Labs Inc.

Mad City Labs offers a complete product line of high precision piezo nanopositioners, micropositioners, single molecule microscopes, and atomic force microscopes (AFM). Applications - photonics, quantum sensing, metrology, microscopy, interferometry, spectroscopy, and astronomy.

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In Case You Missed It

Photon Emission Control for Quantum Applications Sets Precision Record

Researchers at the University of Twente (UT) demonstrated a way to control the emission of photons with record-setting precision, by using nanophotonic tools — specifically, tiny chemical chains of polymer brushes — to hold photon sources in place. Through their demonstration, the team showed that excited light sources can be reduced by nearly 50x. [Read Article](#)

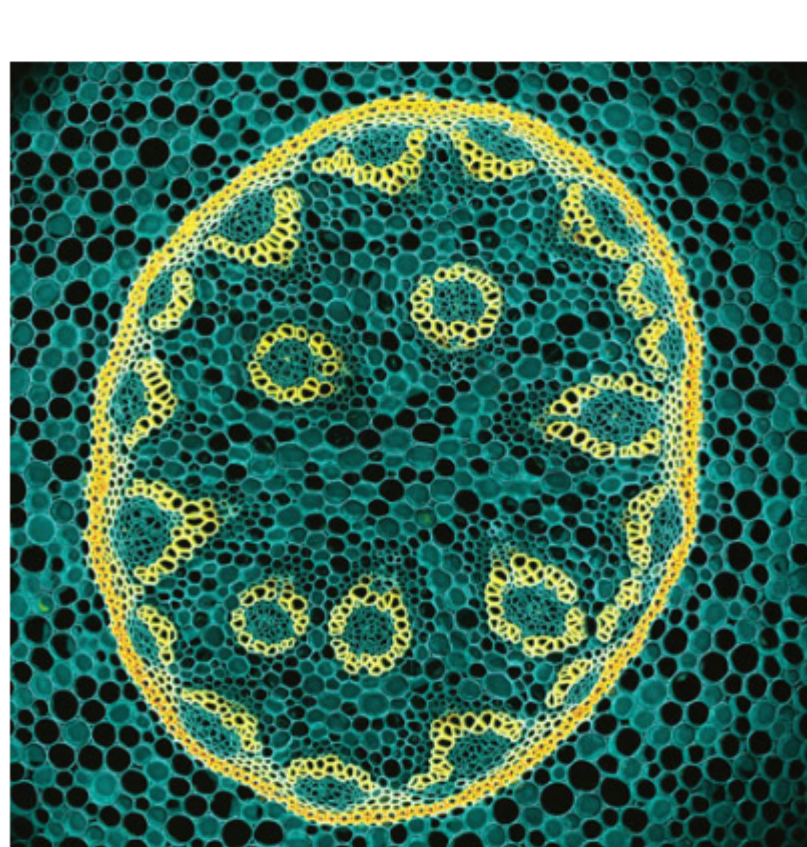
Multifunctional Diode Speeds and Integrates Optical Computing

A multifunctional three-terminal diode (TTD) developed by a team at the University of Science and Technology of China can function as both an optical emitter and a photodetector. The TTD boosts communication bandwidth significantly. It is easily reconfigured, making it useful for integrated optical computing. According to the researchers, it sets a new benchmark in light emission and detection control. [Read Article](#)

Water-Born Glass Shows Transparent, Adhesive, Self-Healing Properties

Researchers from Tel Aviv University have created a type of glass that is formed spontaneously when a powdered substance comes into contact with water at room temperature. The glass is a strong adhesive, fully transparent, and has self-healing properties. It is expected to have applications in a broad range of industries, from satellite communications to medical fields. [Read Article](#)

Latest Webinars



Beam Steering with Galvos: Common Configurations and Their Uses

Wed, Jul 24, 2024 1:00 PM - 2:00 PM EDT

Galvanometer scanning systems are highly configurable tools for steering laser beams and are used in applications including microscopy, lidar, and the laser processing of materials. Choosing the correct configuration for a particular application requires the consideration of a wide range of factors. In this webinar, Carol Borsa from Thorlabs compares commonly available configurations and discusses the merits of each. She provides key insights to specifications on data sheets, and guides users to suitable solutions. This presentation also covers basic integration steps and requirements, as well as helpful tools for finding the limits of a system. Participants will gain insights into best practices when choosing a participant and will have the opportunity to learn ways to use other available equipment to

integrate confidently. Presented by Thorlabs.

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Scientific Lasers, Lidar, Photonics Workforce, Laser Fusion Sources, and Design and Simulation

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