



Monthly Newsletter

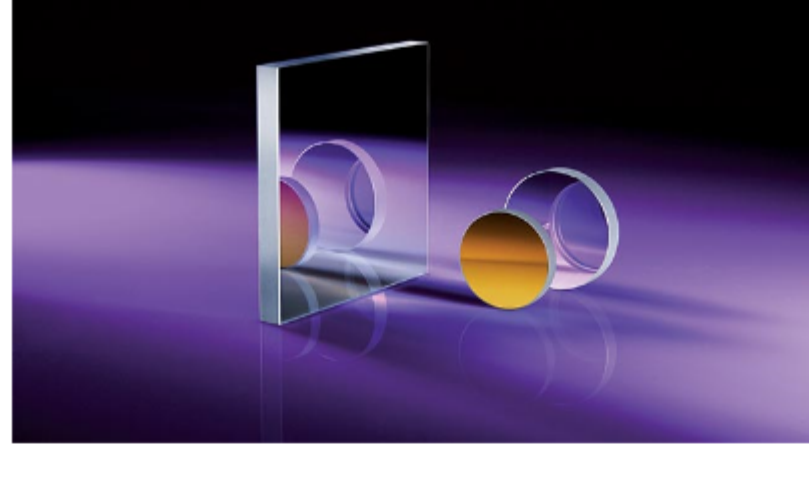
Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue. [Photonics.com/subscribe](https://www.photonics.com/subscribe).



A Quantum Tool Set Could Reshape Laser Beam Profiling

With applications for lasers constantly expanding, the need to precisely monitor the lasing process to ensure optimal and repeatable performance places stringent requirements on beam-profiling mechanisms. Industry widely agrees on many of the standards that govern effective beam profiling as well as the parameters — such as power, shape, and energy — for which data is needed to determine the utility of the laser.

[Read Article](#)



Adapting Metallic Coatings for Dynamic Applications

Each type of metallic coating offers its own unique set of benefits and shortcomings. By carefully selecting the proper material(s) — whether aluminum, silver, nickel, or gold — as well as the necessary enhancements, manufacturers can expand the range of applications for mirrors from high-precision scientific instruments to commercial products and beyond.

[Read Article](#)



Advancing Spectroscopy Solutions Help Clear the Air

Demand is increasing for high-performance photonics systems that enable detections of trace amounts of gases. Certain tools, such as the technique of laser absorption spectroscopy, are essential to improve data collection efforts, thereby helping businesses to identify leaks and maintain regulatory compliance. Combined with advancements in connected sensor networks, photonics techniques, especially those in the IR, are apt to provide industries with the tools needed to

begin investing in a more sustainable future. [Read Article](#)

Featured Products & Services



Waveplate Quality in Catalog and Custom

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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ArmD[®] Specialty Optical Fiber

Armadillo SIA

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customizable ArmD[®] Specialty Optical Fiber, Cable, & Assemblies line. Our shaped core fibers facilitate efficient fiber mapping and homogeneous power distribution. Enhanced solarization resistance ensure reliable performance even in deep UV. For applications demanding excellent heat resistance, choose from metal coatings like tin, copper, aluminum, and carbon-primed aluminum. Armadillo SIA — specialty fiber solutions engineered to your needs.

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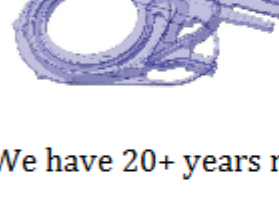
Peak Performance in Any Environment

North American Coating Laboratories

NACL IR coatings improve clarity and durability by reducing reflectance and enhancing transmission in infrared wavelengths. These coatings protect surfaces from scratches, moisture, and environmental damage, ensuring longevity and consistent performance even in challenging conditions.

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Experienced Precision Brazing!

LUX Manufacturing

We have 20+ years machining complicated brazed cold plates with a specialization in aluminum cold plates. We also have experience with copper and stainless steel, as well as machining finned and dip brazed heat exchangers for passive heat exchanger systems.

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Norland Optical Splice

Norland Products Inc.

Norland's optical splice provides a high-performance connection for optic fibers in a unique one-piece design.

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IR Filters for Thermal Imaging

Spectrogon US Inc.

Spectrogon manufactures infrared filters and windows with high transmission, high rejection outside the passband, while maintaining excellent coating uniformity for thermal imaging and gas detection applications such as cryogenically cooled IR detectors and uncooled microbolometers.

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Looking for something else? Check the Photonics Marketplace.



In Case You Missed It

SPIE Announces Finalists for 2025 Prism Awards

SPIE, the international society for optics and photonics, has named finalists for the 2025 Prism Awards. The 24 products — from companies ranging from emerging innovators to industry stalwarts — selected in eight categories, will be honored during a Jan. 29 gala evening at SPIE Photonics West. [Read Article](#)

Unidirectional Imaging Enables Asymmetric Visual Info Processing

Traditional imaging systems are bidirectional — if a camera can see a person, the person can see a camera. Researchers at UCLA recently developed a new type of imaging technology that could revolutionize how visual information is captured and processed: unidirectional imaging. By allowing images to be formed in only one direction, this technology provides an efficient and compact method for asymmetric visual information processing and communication. [Read Article](#)

Photoresist Enables High-Throughput, High-Resolution Nanolithography

A new cationic-based photoresist can improve the production speed of two-photon lithography without sacrificing resolution. The highly sensitive photoresist, called TP-EO (short for two-photon epoxy oligomer), was developed by a team at Zhejiang University. [Read Article](#)

Featured Video



Breaking News: China Responds to U.S. Restrictions with Export Bans, VDMA Branch Elects New Chairperson, Executive Board

Tensions between the U.S. and China are escalating. Chinese officials have announced new export bans after White House officials increased export restrictions on several Chinese companies. VDMA R+A has appointed a new chairperson along with a new executive board. Some of the chairpersons in photonics are forming a consortium focusing on 3D printing for industrial applications. Researchers have found a way to break down forever plastics with LED systems. Liquid crystal lens could help people with epilepsy to avoid seizures caused by

certain light. And a team in Brazil is using LIDAR technology to assess landslide risks. Sponsored by scia Systems and TRIOPTICS.

[Watch Now](#)

Next Issue:

Features

PICs, Laser Microprocessing, Micro-Optics, Drone-Based Sensing, Quantum Optics, Nano-Positioning, Silicon Photonics, and Nonvisible Imaging

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