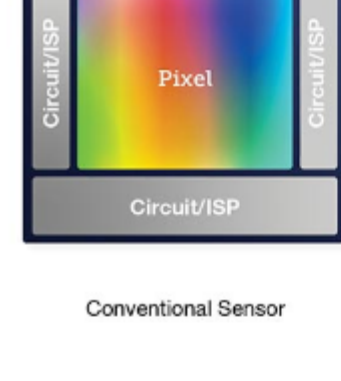
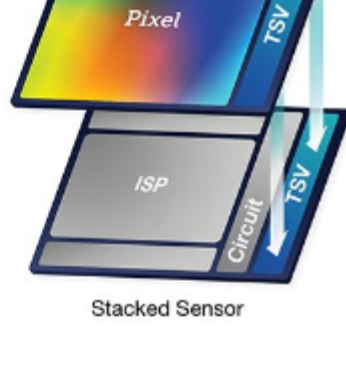




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Conventional Sensor

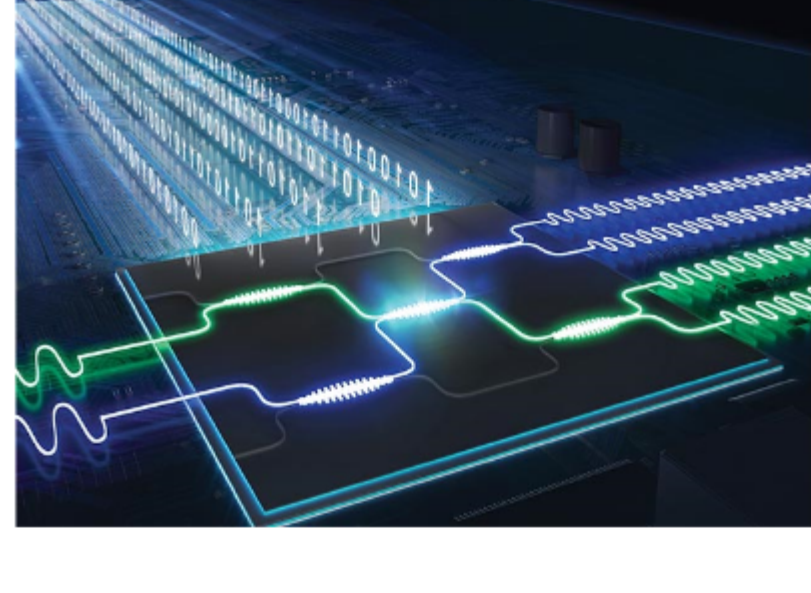


Stacked Sensor

3D-Stacked CMOS Sparks Imaging's Innovation Era

CMOS manufacturing has undergone a significant transformation in the last 12 months. The manufacturing processes that even seasoned developers regarded as fundamentally experimental 20, or even 10, years ago have come within reach of enabling an entirely new set of

commercial applications. These breakthroughs, such as 3D stacking, are emerging in addition to the applications that industry innovators have already demonstrated owing to advancements in CMOS manufacturing processes. [Read Article](#)



Software-Defined Photonics Orchestrates Light in Future Data Centers

At a system architecture level, software-defined networking has transformed data center management in the last decade, decoupling the control plane element from the data plane element. The flexibility in this design innovation enables dynamic traffic routing, network adjustments, and resource allocation — all through software control. [Read Article](#)



A Quantum Leap for Sensitive Gas Analysis

Far above an oil pipeline, a drone bobs and weaves. The drone, dispatched by Denver, Colorado-based Project Canary, is collecting high-resolution imaging data of the site, while also scanning for any indications that the pipeline is leaking methane. Methane is a potent greenhouse gas, and Project Canary cofounder and co-CEO Will Foiles saw a valuable opportunity to act against climate change by giving oil and gas facilities the ability to quickly detect and prevent its release

into the atmosphere. [Read Article](#)



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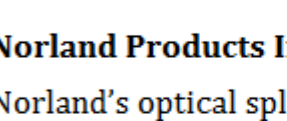
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20X Microscope Lens

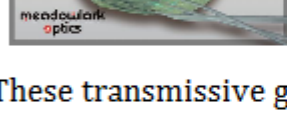
Radiant Vision Systems, Test & Measurement

The Radiant Vision Systems 20X Microscope Lens enables high-resolution imaging of extremely small

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These transmissive gratings efficiently (>99.5%) diffract circularly polarized light to the first

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DRS Daylight Solutions introduces Stretto, a family of high-precision tunable lasers. Designed to enable

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In Case You Missed It

Traceable Standards Could Speed Development of Quantum Technologies

Researchers from the National Institute of Standards and Technology of Maryland have developed standards and calibrations for the optical microscopes used to guide the centering of quantum dots within photonic chips. The method enables a precision down to 10-20 nm across the entire image from an optical microscope, allowing the correction of many individual quantum dots. [Read Article](#)

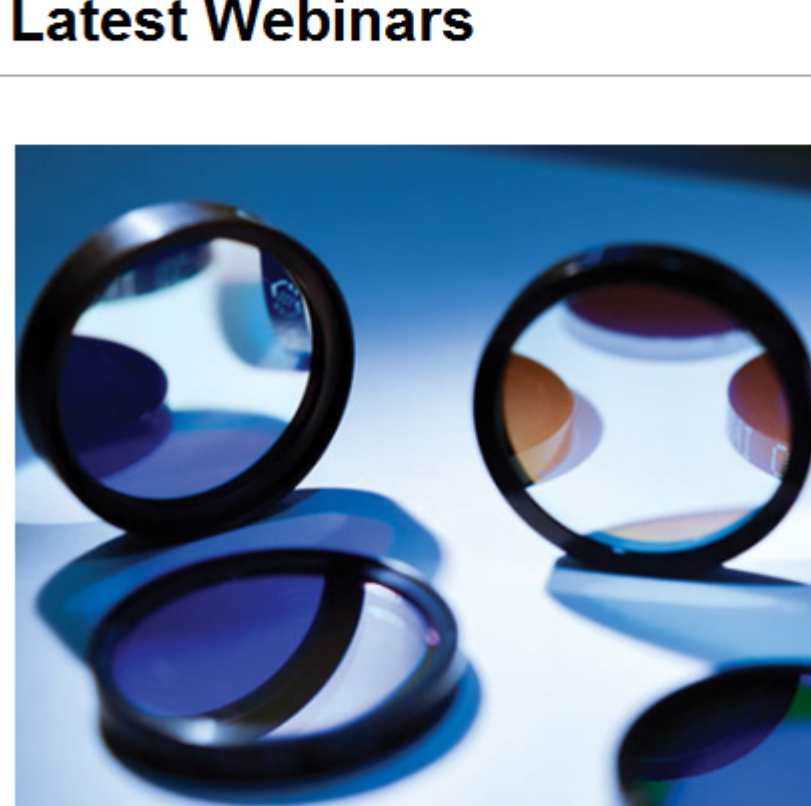
Ultrabroad Coatings Achieve Broadband Absorption for Precision Optics

A broadband, ultrabroad film from the University of Shanghai for Science and Technology and the Chinese Academy of Sciences could enhance the performance of telescopes and have other applications in space exploration and precision optics. In tests, the film achieved an average absorption as high as 99.4%, within a wavelength range of 400 to 1000 nm. [Read Article](#)

Photonics-Based Oscillator Provides Precise Signals on Compact Chip

Researchers from the University of Colorado Boulder, the National Institute of Standards and Technology, the NASA Jet Propulsion Laboratory, California Institute of Technology, the University of California Santa Barbara, the University of Virginia, and Yale University developed a low-noise microwave generator with a compact, portable form factor by using two-point optical frequency division, a technique for developing high-performance signal sources, with integrated photonic components. [Read Article](#)

Latest Webinars



Optical Filters: Application and Design Considerations

Tue, Apr 23, 2024 1:00 PM - 2:00 PM EDT

Optical filters can discretely transmit or reject specific wavelengths or ranges of wavelengths of light. Utilizing this capability in photonics-based instruments creates the need for a

better understanding of optical filter design considerations and how specifications influence performance and cost. Craig Hanson of MKS/Newport discusses the fundamental principles

of optical coatings and filter types and explains the significance of filter parameters and the benefits of design review. He also explores necessary options and subsystem integration. Next

Hanson unveils MKS's unique manufacturing processes and capabilities for custom optical filters from prototype to high-volume production. Finally, this presentation concludes with an

open Q&A, for which Hanson is joined by Mark Roberts, principal thin-film engineer at Newport. Presented by MKS Newport.

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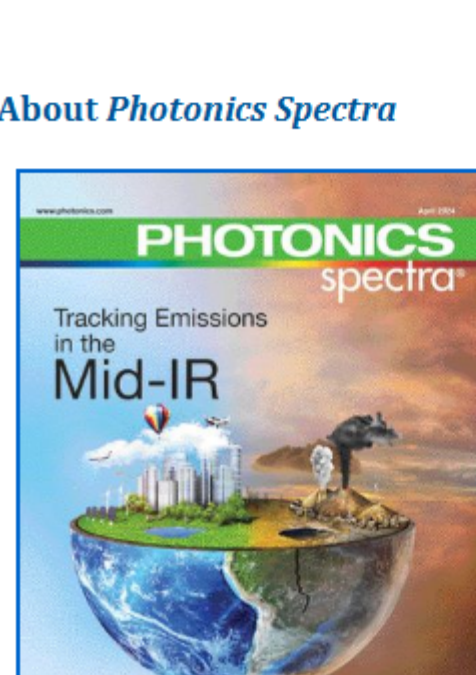
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Features

Visible Lasers, Laser Scanners, Reflective Optics, 3D Imaging, and Photonics in Sports

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