

Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue. Manage your Photonics Media membership at [Photonics.com/subscribe](http://Photonics.com/subscribe).

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## Advanced Imaging Rises to the Task of Detecting Space Debris

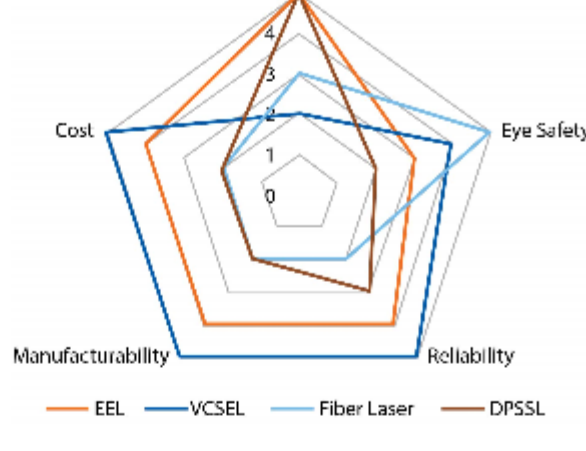
The space industry has undergone a remarkable transformation in recent years. Once the domain of big-budget government projects, the field has increasingly seen the entry of more and more commercial enterprises, ranging from high-profile, billionaire-funded rocket launches to small startups with innovative ideas about capitalizing on the emerging space economy. The transformation has become significant enough that many speak of a "NewSpace" era.



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## Advancements in Diode Lasers Fuel Automotive Lidar

Lidar for autonomous vehicles debuted in 2007 as an enabling sensor technology for robotaxis and robotruck development. Within the last five years, however, the technology has trended toward broader commercialization in mass-market passenger vehicles, as evidenced by a dozen volume contracts or project nominations signed by OEM carmakers and lidar providers.



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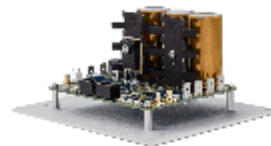
## How Optical Networks Are Enabling the 5G Advantage

The fifth generation of broadband cellular network technology (5G) offers a more than tenfold increase in speed compared to 4G. It handles a wider variety of devices, provides greater reliability, and operates with lower latency. These benefits signal why 5G services will reach \$600 billion in global revenue by 2026, according to a study from Juniper Research.



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## Featured Products



### D100 Compact 250A Laser Driver

**Highland Technology Inc.**

The D100 is a constant-current pulsed laser driver ideal for powering pulsed laser bar arrays. Current/pulse width can be set by on-board trim pots or user-provided signals. A compact PCB outline makes the D100 well suited for bench laser evaluation and embedded OEM applications.

[Visit Website](#)

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### TE-Series CCD Cameras

**Atik Cameras Ltd.**

Introducing the TE-series, which utilizes the powerful scientific CCD sensors from Teledyne e2v. This advanced camera series has low-read noise and exceptional full-well depth. Combined with a high dynamic range and low saturation, it achieves outstanding detail for the most demanding of applications.

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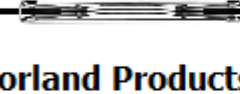
### The 2022 Photonics Buyers' Guide

**Photonics Media**

If you buy products and services related to lasers, optics, imaging, sensors, detectors, test and measurement, light sources, fiber optics, spectroscopy, materials and coatings -- you need the Photonics Buyers' Guide.

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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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## In Case You Missed It

### All-Optical Crystals Perform as Precision Timekeepers

A team led by researchers at the University of California, Riverside has demonstrated time crystals that can persist indefinitely at room temperature, despite noise and energy loss. The team, which includes researchers from the NASA Jet Propulsion Laboratory, OEwaves Inc., and Jagiellonian University (Poland), investigated time crystals — periodic states that exhibit spontaneous symmetry breaking — in a system that is not isolated from the time crystals' ambient environment.



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### Chiral Polymers Take Fast Track to High-Efficiency Circularly Polarized OLEDs

In experimental work, researchers in the group of Chen Chuanfeng from the Institute of Chemistry of the Chinese Academy of Sciences have demonstrated devices using chiral thermally activated delayed fluorescent polymers. The devices, chiral-polymers-based circularly polarized OLEDs, demonstrated highly efficient circularly polarized electroluminescence properties.

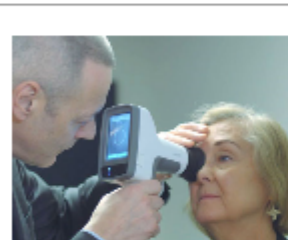
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### Fusion Splicing Achieves Low Loss in Mismatched Multicore Fibers

Researchers at Fudan University demonstrated low-loss fusion splicing techniques between spacing-mismatched multicore fibers. According to the researchers, the work builds on previous studies — including from other research groups — that addressed the challenge of multicore splicing but did not address MCF splicing with any mismatched spacings.

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## Upcoming Webinars



### Emerging Technologies Changing Ophthalmology Access and Point of Care

Thu, Mar 17, 2022 10:00 AM - 11:00 AM EDT

This webinar — for those interested in visual optics, ophthalmology, and biomedical devices — introduces five technologies that are using optics, photonics, or imaging to redefine how patients are served along the point-of-care continuum, from diagnosis and treatment to surgical selection and correction. It also showcases how technologies are being applied to make tools more mobile and accessible, minimize workflows, and reduce the risks associated with COVID-19 to significantly improve both the patients' and the practitioners' experience. Presented by Luminat.

[Register Now](#)



### Adaptive Optics: From Design to Application

Wed, Mar 30, 2022 10:00 AM - 11:00 AM EDT

Adaptive optics (AO) is a technology originally used for removing the blurring effect of atmospheric turbulence on images in ground-based telescopes. Since then, it has become invaluable in other fields, such as vision science and microscopy. For example, by correcting for blur due to the optics of the eye, AO has revolutionized ophthalmology by allowing diseases to be detected and monitored at the single-cell level, thus providing earlier diagnoses. Karen Hampson, Ph.D., of Oxford University overviews AO technology and its application considerations for astronomy, vision science, and microscopy.

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## Next issue:

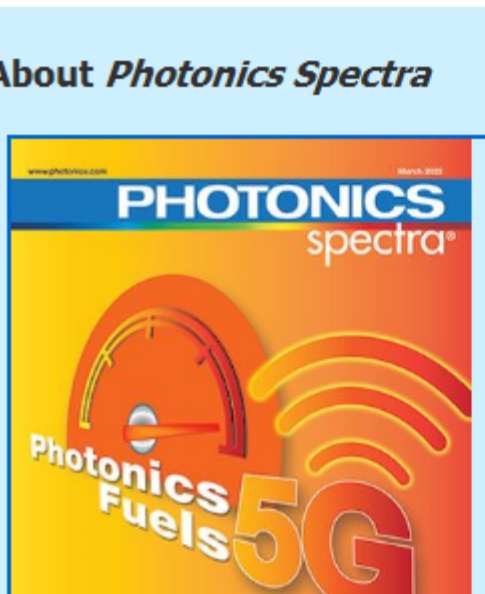
### Features

Laser Optics, Large-Format Sensors, Laser Peening, and more.

### Issue Bonus

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Photonics Spectra*. Please submit an informal 100-word abstract to Daniel McCarthy, Senior Editor, at [Daniel.McCarthy@Photonics.com](mailto:Daniel.McCarthy@Photonics.com), or use our online submission form [www.photonics.com/submitfeature.aspx](http://www.photonics.com/submitfeature.aspx).

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