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Highlights from the January 2014 issue of Photonics Spectra

Trends in Lasers: Greater Speed, More Power and New Materials

For lasers, the trends are fast and powerful - literally. Shorter pulse widths and greater power are future directions for the technology. On the horizon are new lasing materials and new concepts to produce laserlike light sources. The outcome of these advances could be more efficient, less wasteful manufacturing as well as systems that consume less energy.

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Trends in Optics: Old and New Technologies Set to Flourish

Advances in optics in the past year or two have ranged from promising new optical materials to innovations in existing technologies. From optical coatings and add-on kits to quantum dots and metadevices, the scope of progress is as extensive as it is varied.

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Trends in Imaging: The Future Looks Photonic

Developments in photonics have changed the landscape of imaging in communications, defense, security, health care, transportation and many other applications in a deep and lasting way over the past few years. Imaging depends on the ability to obtain information and display it, which at some point in the process always involves photons. What's trending is the way researchers are gathering imaging data and how they are using it.

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Where the Jobs Are Now

As I contemplated today's photonics job/employment environment, and the business climate and outlook for 2014, I went back to the "Where the Jobs Are" article I wrote for the August 2012 issue of Photonics Spectra. One difference between then and now, at least from an economic perspective, is that we're simply further along in the economic recovery - but as we saw back then, job creation and job growth have continued to be slow/moderate.

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Image Quality Testing Improves as Cameras Advance

Image quality testing of complete cameras and assembled camera modules is standard in the optics industry. It is done by imaging a suitable target using the camera module under test and evaluating the quality of the reproduction of the target. But recent rapid advances in consumer-type technology - for example, 13-MP-resolution cameras in smartphones becoming standard in the higher-priced region - are rewriting the rules.

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Complete Turnkey Solutions

Precision Glass & Optics

PG&O provides cost-effective and reliable precision and commercial components, thin film coatings, and complete fabrication services.

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NOCTURN CMOS Camera

Photonis USA

The NOCTURN CMOS-based camera from PHOTONIS provides unmatched low-light digital imaging, with sensitivity of <4e- read noise in a full 100 fps SXGA (1280x1024) resolution.

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IQ6 Laser Diode

Power Technology, Inc.

The IQ6 laser diode module from Power Technology Inc. is suitable for OEM applications requiring narrow spectral widths and long coherence lengths.

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Fiber Coupler for Quartz Fibers

Laser Components USA, Inc.

New fiber couplers from Laser Components USA Inc. facilitate the coupling of light from free-beam lasers into a quartz fiber.

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