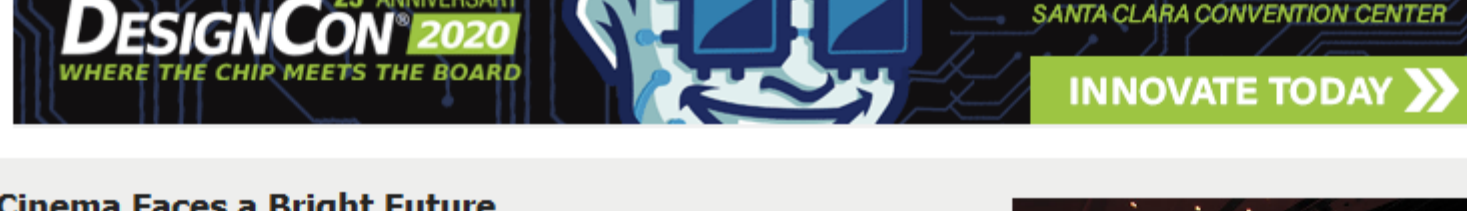


PHOTONICS



spectra

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Digital Cinema Faces a Bright Future

Over the past 40 years, audiences have grown accustomed to seeing lasers used on screen in blockbuster action and science fiction films. More recently, lasers have carved out an essential role behind the scenes as well, enabling cutting-edge digital projectors that can deliver brighter images with richer color and more consistent quality over time. Digital projectors first reached theaters in 1999, with a push from George Lucas and 20th Century Fox, who wanted to use the technology to showcase the first of the modern generation of "Star Wars" films, "The Phantom Menace." Since then, the technology has all but supplanted conventional mechanical film projection. By the end of 2017, the Motion Picture Association of America reported that 98% of the world's cinema screens used digital projection.



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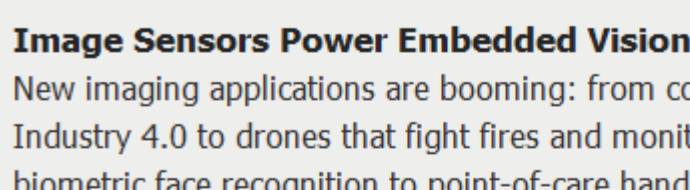


Image Sensors Power Embedded Vision

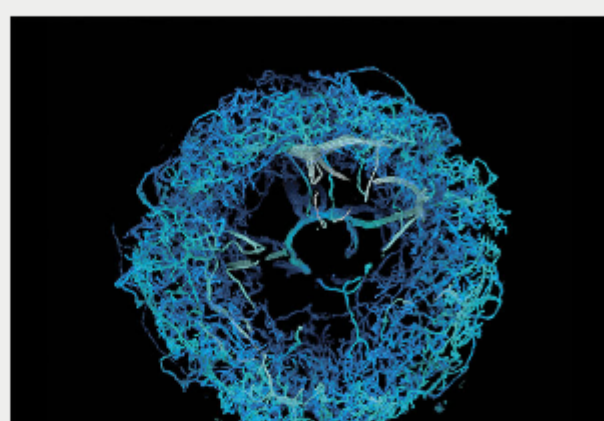
New imaging applications are booming: from collaborative robots in Industry 4.0 to drones that fight fires and monitor crops, from biometric face recognition to point-of-care hand-held medical devices at home. A key enabler in the emergence of these new applications is embedded vision, which has become more accessible than ever. Embedded vision is not a new concept; it simply defines systems that include a vision setup that controls and processes data without an external computer. Embedded vision is already widely used in industrial quality control, especially in smart cameras.



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Better Biomedicine via 3D Imaging

Advancements in biomedical 3D imaging promise to improve research findings and clinical outcomes, thereby producing widespread benefits. In research, a combination of techniques will enable high-speed visual 3D imaging effectively below the diffraction limit, allowing scientists to better track what goes on in the brain or to examine other tissues and organs. The results of these advancements could be discoveries about how the brain works and how diseases progress.



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Featured Products

New CMOS Sensor Family, Targeted at 3D Laser Triangulation Applications

Teledyne e2v (UK) Ltd.
Teledyne e2v announces its Flash CMOS image sensor family, specifically tailored for 3D laser profiling/displacement applications and high speed, high resolution inspection. The new Flash sensors feature a 6 µm CMOS global shutter pixel which effectively combines high resolution and fast frame rate.

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C-WAVE: Tunable CW Laser Light

HUBNER Photonics
The C-WAVE, by HÜBNER Photonics, is a unique, tunable, single frequency, CW, OPO, covering 450 nm - 650 nm and 900 nm - 1300 nm. In the region 450 nm - 650 nm output powers of up to 200 mW are available while at 900 nm - 1300 nm output powers up to 400 mW are available.

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The New Collar Workforce

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U.S. manufacturing companies are expected to face a shortage of two million skilled workers by the year 2020, according to reports. As a result, manufacturers and educators are looking for real, actionable ideas to train workers, reduce the shortfall and realize the potential of the new age of manufacturing.

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Wavelength Stabilized Diode Laser

PhotonTec Berlin GmbH
PhotonTec Berlin extends the wavelength stabilized product family with a new diode emitting up to 200 W through a 200 m core, NA 0.22 fiber at 976 nm. Utilizing volume grating, the emitting wavelength is stabilized at 976 nm and insensitive to operating temperature and current.

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Photonics West
Wednesday, February 5, 3:00 p.m. | Booth 658/659

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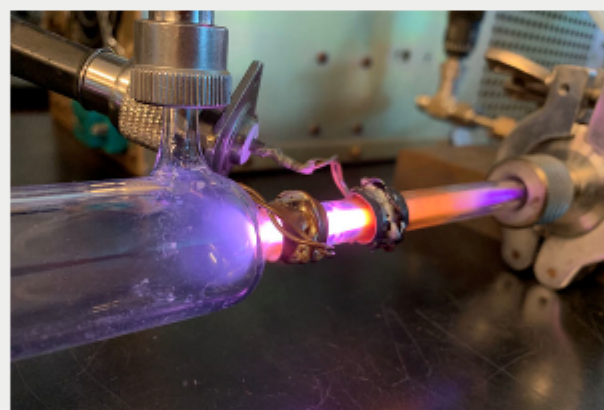
23-27 August 2020 · San Diego, CA, USA

In Case You Missed It

Low-Energy Photons Upconverted Using Nontoxic Material

Researchers at the University of California, Riverside (UC Riverside) and the University of Texas at Austin demonstrated the use of nontoxic silicon nanocrystals to convert low-energy photons into high-energy ones. The use of nontoxic materials for photon upconversion could help advance the development of photodynamic treatments for cancer.

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3D Printer Dissipates Heat With UV Light, Stereolithography

Northwestern University researchers have developed a stereolithographic 3D printer that can print an object the size of an adult human in just a couple of hours. Called HARP for high-area rapid printing, this printer uses a patent-pending version of stereolithography that circulates liquid plastic to remove heat, which can cause printed parts to crack and deform.

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Bioinspired Sensor Uses Metalenses for Depth from Defocus

Researchers at the Harvard John A. Paulson School of Engineering and Applied Sciences (SEAS) have developed a compact sensor that can measure depth in a single shot. The sensor's design was inspired by the specialized optics of the jumping spider.

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Webinars

Advancements in Precision Motion Control for Electro-Optical Manufacturing and Laser Materials Processing

Wed, Jan 22, 2020 1:00 PM - 2:00 PM EST

With a focus on high-throughput/high-yield positioning and microbotic solutions for leading-edge manufacturing, this webinar from Physik Instrumente (PI) will present the latest advancements in software, control algorithms, and motion systems hardware available to design engineers and scientists in the laser processing, optics, and photonics industries. Examples laser design of substrates with nonuniform topologies and autonomous microbotic processing and precision-positioning solutions for fast optimization in the manufacture of silicon photonic, laser electro-optic, lidar, and imaging-optic assembly and test.

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