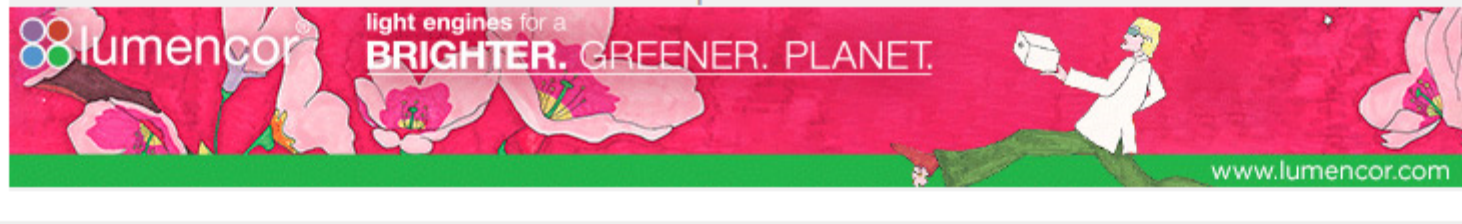


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AR, VR Markets Primed for Rapid Growth

After experiencing incremental gains over the past decade, the augmented and virtual reality (AR/VR) markets are poised for swift advancement as the technologies mature and find new uses. Market research firms predict that from 2017 to 2023, the global compound annual growth rate will be about 40% for AR and nearly 34% for VR. This means a \$60 billion market for AR in just four years — up from \$4.2 billion in 2017.



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From Textiles to Meat: CO₂ Lasers Leave Their Mark

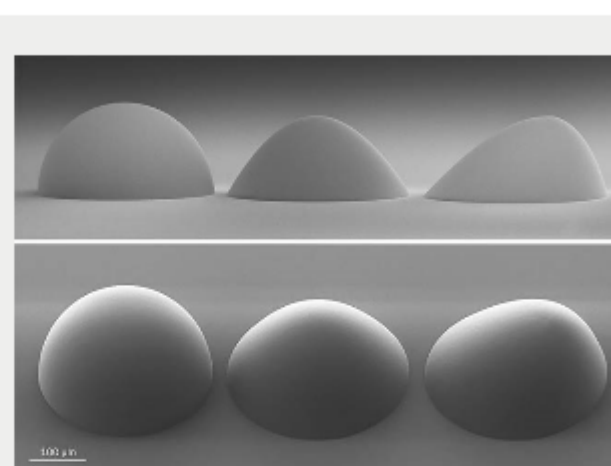
Sealed CO₂ laser sources are useful in many manufacturing applications — from cutting, drilling, and perforating to marking, engraving, scribing, and welding. They can process a diverse array of materials — including textiles, polymers, rubber, composites, glass, wood, ceramics, and metals — and are used in various industries worldwide.



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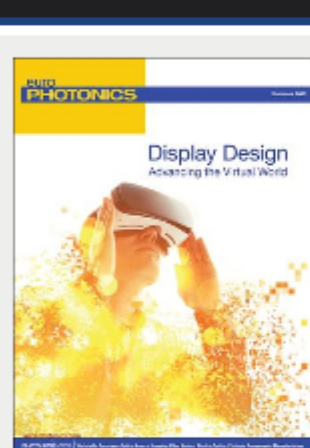
Ultraprecise 3D Microprinting for Optical and Photonic Components

Miniaturization is the trend of downsizing devices and products, which is triggering technological innovation. Miniaturization down to the microscale means functional components are becoming even smaller and lighter and increasing the performance of highly integrated systems. For example, miniaturized photonic chips, cameras, and sensor systems enable applications ranging from high-speed data- and telecommunications to ultracompact imaging systems in mobile devices and disposable medical instrumentation at the point of care. These applications require new manufacturing and packaging methods to bring more and more miniaturized and high-performance components together in increasingly small spaces. Here, additive manufacturing (AM) with submicrometer precision provides an interesting value proposition.



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More News From Europe

Machine Learning and Computer Vision Lead to Smarter, More Precise Crop Management

Researchers at the Earlham Institute (EI), working with G's Growers in Ely, England, have developed a machine learning platform that works with computer vision and ultra-large-scale images taken from the air to help categorize lettuce crops in fields. To quantify millions of in-field lettuces acquired by fixed-wing light aircraft equipped with sensors, the researchers customized the platform, called AirSurf, by combining computer-vision algorithms and a deep-learning classifier trained with over 100,000 labeled lettuce signals. The tailored platform, AirSurf-Lettuce, demonstrated the capability to score and categorize iceberg lettuces with an accuracy of more than 98%.



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Using Light to Produce Electricity Where Saltwater and Freshwater Meet

A group of École Polytechnique Fédérale de Lausanne (EPFL) researchers has demonstrated that light can be used to reproduce the production of osmotic power, or blue energy, at river estuaries. The researchers created a system that reproduced the conditions that occur at estuaries, where electrically charged salt ions move from the salty seawater to the fresh river water. They shined light on their system, which combined water, salt, and a membrane just three atoms thick, and found that the system produced twice as much power under the effect of light as it did in the dark.

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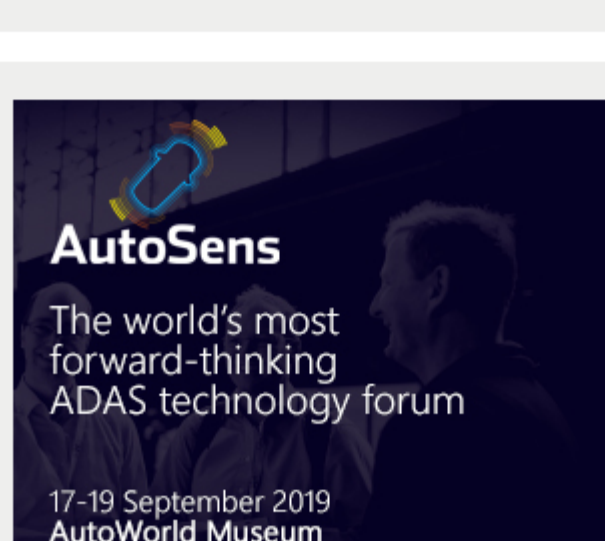
New Class of Visible-Light Photoswitches Could Provide Greater Molecular Photocontrol

A consortium of scientists from five European institutions has developed a new class of molecular photoswitches that are operated with visible light only. The new switches show large separation of absorption bands and function in various solvents including water. The researchers believe that the new switches could lead to the development of improved photocontrolled systems for a variety of applications that require fast, responsive functions.

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