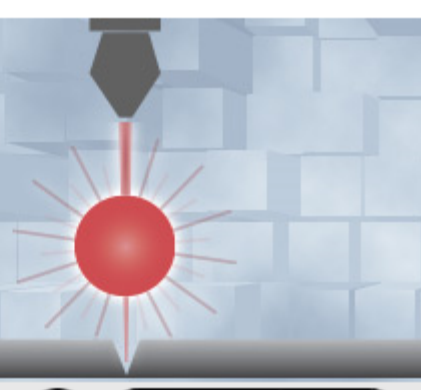


# INDUSTRIAL PHOTONICS LASERS



A quarterly newsletter focused on the latest advancements in and applications for industrial lasers - from materials processing to metrology. Manage your Photonics Media membership at [Photonics.com/subscribe](http://Photonics.com/subscribe).

## Industrial Laser News

### Hybrid Fiber Lasers Create New Capabilities for Micromachining

Micromachining of fine features has become an integral part of high-volume manufacturing in industries as diverse as automotive, consumer electronics and medical devices. Precision drills, saws, routers and, increasingly, lasers, are being used to create tiny holes, fine cuts and narrow scribes.



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### One-Step 3D Laser Printing of Catalysts

A 3D laser printing process that creates a chemically active catalytic object in a single step has opened the door to more efficient ways to produce catalysts for complex chemical reactions in a wide scope of industries. While 3D printing has found applications in many areas, its use as a way to control chemical reactions is relatively new.



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## Featured Products



### New Scan Concept boosts Productivity

**SCANLAB GmbH**

SCANLAB GmbH and ACS Motion Control Ltd. present a new powerful scan concept. The jointly developed syncAXIS control software enables simultaneous control of a 2D scan head and a 2D mechanical stage with two servo motors. The combined system substantially increases the image field size for wide-area marking.

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### Structured lighting solutions

### STREAMLINE LASER



### SL Microcontroller Laser

**Osela Inc.**

Osela is proud to introduce the new Microcontroller Option for our Streamline laser! This option allows for digital interfacing with the Streamline laser using RS-232 or RS-485 communication. The MC monitors and reports key parameters as well as allowing users to set operational conditions of the laser.

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## More News

### In the Oil Industry, Lasers Make the Cut

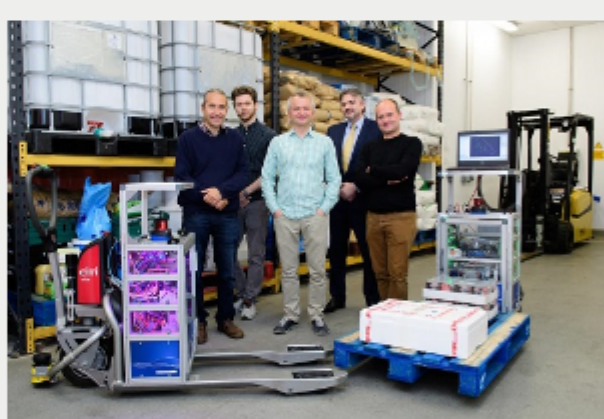
Cutting or welding heavy metal requires higher laser output power than virtually any other type of materials processing application. In the oil industry, an important heavy metal cutting application is creating the slotted liners used to separate oil from well sediments such as sand and gravel. Traditionally, this was done with diffusion-cooled CO2 slab lasers, but now, kilowatt-class fiber lasers are poised to penetrate this market segment.



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### AGV Forklifts use Advanced Computer Vision and Artificial Intelligence

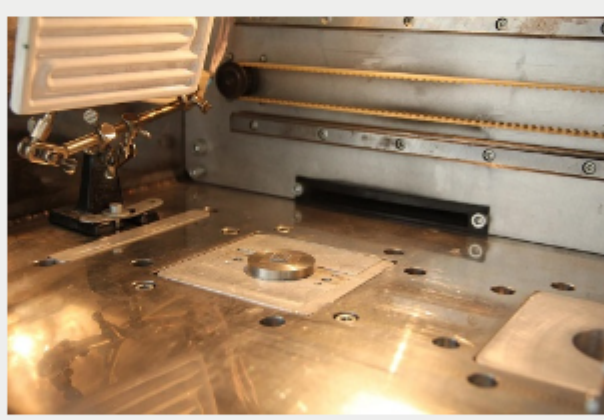
Robotics specialists in the U.K., Sweden, Italy and Germany are working together to bring next generation automated guided vehicles (AGVs) into current warehouses to support tasks such as packing, palletizing and transporting goods. The four-year project will deliver significant technological advances into a single integrated system ready for easy, low-cost deployment and without the need for major infrastructure investments.



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### Additive Manufacturing of Titanium Aircraft Parts

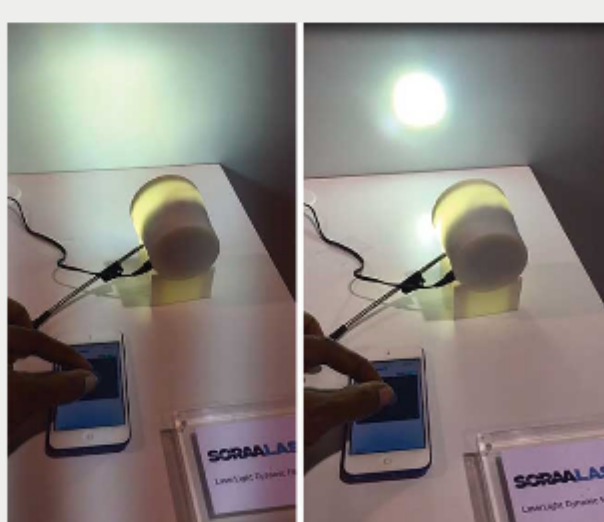
An additive manufacturing technology that uses direct metal laser sintering enables the printing of titanium aircraft parts with a modified surface layer. The production of metal products via additive manufacturing ensures less material consumption as well as possibilities to develop complex geometric products.



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### Laser Light Source Delivers Superior Optical Control

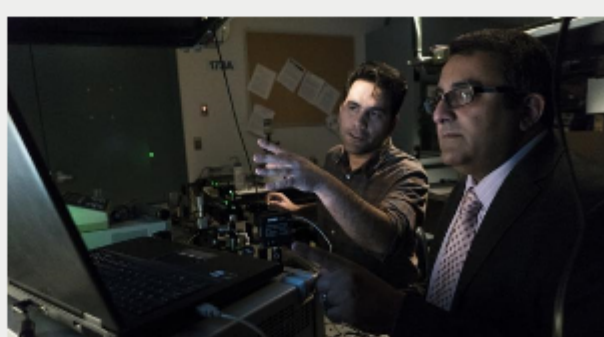
Laser diode-pumped phosphor light sources utilize a high-power blue InGaN laser diode to excite a very small phosphor target — about 300 μm diameter. The small phosphor spot size allows for greater optical control of the down-converted white light emission. As a result, extremely narrow beam angles can be created. The resulting sources are the smallest and most intense solid-state light sources commercialized for lighting applications, with luminance that is up to 10x that of the brightest LEDs.



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### Optical Fiber Used to Direct, Stabilize Random Laser

An advance in laser technology combines the broad spectral features of a random laser with the spectral stability and high directionality of a traditional laser. Such an advance could enable greater use of random lasers in applications where a broad spectrum illumination source would be of benefit.



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