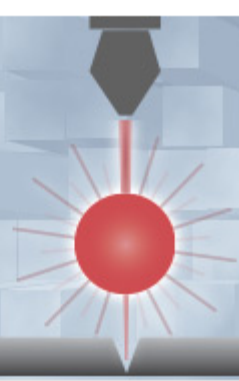


INDUSTRIAL PHOTONICS LASERS



A quarterly newsletter focused on the latest advancements in and applications for industrial lasers - from materials processing to metrology.

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Industrial Laser News

Laser Welding Joins the Lightweighting Trend

To return the Cadillac brand to the global prestige luxury stage, General Motors threw as much as it could — 13 materials in all — into the sedan's body to make it the lightest vehicle in its class. And then to join this "crazy quilt of aluminum, steel, magnesium and plastic," as one industry watcher called it, GM employed the auto industry's most comprehensive and advanced mixed-materials manufacturing techniques, which are deployed by an army of 28 robots that weld the inner and outer frames of the vehicle.



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Landscape Shifting for Laser Materials Processing

Not long ago, laser materials processing was characterized by four basic manufacturing operations: surface treatment, marking, removal and welding. Buoyed by advances in additive materials deposition, the proliferation of laser annealing for thin films, and the evolution of 3D printing for rapid prototyping, the laser materials processing market in 2016 is undergoing seismic change — not only in Europe but in APAC countries such as India, Japan, South Korea and China.



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Testing the Limits of Excimer Lasers: Annealing for Advanced Displays

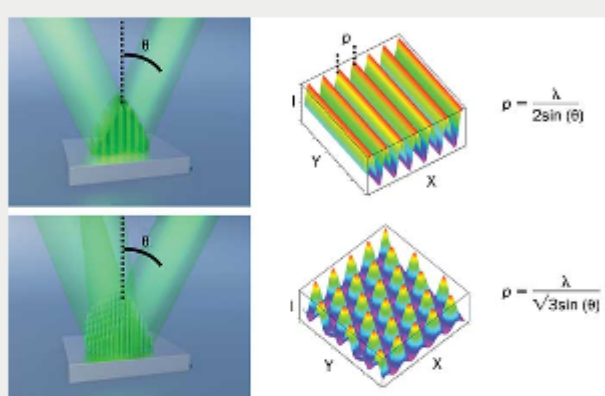
Low-temperature polycrystalline silicon is increasingly used as the thin-film transistor material on the glass backplanes of high-performance displays, particularly for smartphones. These thin films are fabricated on large glass panels that then are singulated into hundreds of individual screens. Mass production of LTPS on these panels is uniquely enabled by excimer lasers, moreover excimer lasers with extremely high pulse energies.



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DLIP Quickly Changing Surface Functionalization

A wide range of products — from LEDs to solar cells to medical implants — can be improved through the use of micro- and nanostructures that significantly influence the physical properties of their surfaces. Such topographies can be utilized to functionalize surfaces and adjust their friction, wear, light management, biocompatibility or other properties to the specific requirements for a certain application.



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Trumpf Creates Venture Capital Firm

Manufacturing solutions provider Trumpf GmbH & Co. KG has founded Trumpf Venture GmbH, a venture capital company to fund technology startups. The company aims to fund promising young companies that want to play a major role in shaping the future of industry.

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Universal Laser Systems Granted Hybrid Technology Patent

Laser materials processing developer Universal Laser Systems Inc. has been granted a patent for its MultiWave Hybrid technology. The MultiWave Hybrid technology combines beams from multiple lasers into a single, hybrid laser beam. Users can leverage this technology to combine a number of different laser power levels and wavelengths.

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nuQ 100 W
Fiber Marking Lasers

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CT-101 and CT-102
Precision Tension Cleaving

Motorized diamond blade
Cleaves fibers from 80-250 μm
Angle cleaving from 0 to 15°

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Featured Products



IDL165-BL Industrial Linear Stages

Newport Corporation

The mid-travel IDL165-BL industrial linear stages feature a ballscrew and brushless motor drive for high duty cycle and high throughput applications. Side bands and positive air purge prevent debris entry and further increases reliability.

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100W Industrial Pulsed Fiber Laser

Nuferm

The 100 W, air-cooled NuQ pulsed fiber laser is ready to take on your toughest engraving and marking challenges from decorative marking to deep engraving for permanent engraving on firearms or industrial equipment. The NuQ family offers single-mode beam quality and both spatial and temporal Gaussian pulse shape.

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PCS-100 Polyimide Coating Stripper

AFL

Quick stripping — A razorblade is applied to the fiber with specific tension and the coating is precisely planed along the fiber automatically. The process requires less time than the conventional methods of acid or heat.

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Industrial Fiber Lasers

SPI Lasers UK Ltd.

SPI Lasers has announced the QUBE high-brightness, kW class, continuous wave industrial fiber lasers, with initial launch products ranging in power levels from 500 W to 6 kW. A pierce detection feature maximizes the efficiency of sheet metal cutting.

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Webinars

Laser Additive Manufacturing

Thu, Jan 12, 2017 1:00 PM - 2:00 PM EST

Join us for a free webinar! Wayne Penn, applied physics consultant and former president of Alabama Laser Systems, will provide an introduction to laser additive manufacturing (LAM) and open source 3D printing. Penn will discuss ways in which 3D printing is being used in additive manufacturing (AM); the challenges of AM, including quality control; and the role of laser welding and cladding technology in AM. He will present examples of industrial applications showing the use of laser welding, cladding and rapid manufacturing techniques in AM, and conclude with a look at future initiatives in the area of LAM. Penn has over 40 years of experience with lasers. For more than two decades he did laser business development and applications R&D for NASA. He was president of Alabama Laser Systems from 1997 to 2016. His current focus includes the R&D of metal deposition and bonding with an emphasis on additive manufacturing.

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