

Munich, February 27, 2019

Press Release

LASER World of PHOTONICS 2019

Focus on manufacturing: Lasers in Industry 4.0

- The world's leading trade fair in Munich will be showcasing photonics in networked production
- From ship's hull to microchip – lasers are the tool of choice
- The trade fair, supporting program and World of Photonics Congress 2019 focus on lasers in manufacturing.

LASER World of PHOTONICS from June 24 to 27, 2019 in Munich will be comprehensively showcasing the dynamics driving the development of modern laser production processes. The focus is on innovations by some 350 leading exhibitors, especially lasers and laser systems in manufacturing. Support program features such as the application panels will discuss the future of lasers in microelectronics and electro-mobility, as well as progress on Photonics 4.0. And, as a bonus, the four-day LiM 2019 – Lasers in Manufacturing at the World of Photonics Congress affords the opportunity for more in-depth consideration.

Nowadays, industrial processes move at the speed of light: shipbuilding yards use lasers to cut and weld enormous steel structures for freighters and cruise ships. The weightless and contactless tool that is light is as widespread in the automotive, aeronautical and mechanical engineering sectors as it is among manufacturers in the plastics, glass and electronics industries. Because lasers in sensor-monitored processes are precision-controllable, don't wear out and have the added advantage of machining at the speed of light.

The range of industrial laser applications is constantly expanding. They cut, perforate, weld, solder, texture, harden or mark and code. The [expert panel](#) on Photonics 4.0 instigated by SPECTARIS in the wings of LASER World of

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PHOTONICS provides more in-depth information (June 27, 2019, 10:00 - 12:20 in the Photonics Forum in Hall A3).

No lasers, no electro-mobility

Laser systems also ensure flexible production. This is becoming a central requirement, especially in the transition to electro-mobility.

Initially, internal combustion engine and electric-drive vehicles will share the same production lines. Photonics is considered to be a key technology for electro-mobility – in the complex manufacturing processes for high voltage batteries, electric motors and power electronics and in lightweight construction alike. Details will be provided by the Application Panel “*No laser technology, no electro-mobility*” (Tuesday, June 25, 2019, 15:00 to 17:20).

The next day of the trade fair will again commence with a discussion on a future field of activity in which lasers play a key role: “*Smart Production of Metallic Parts by Additive Manufacturing*” (Wednesday, June 26, 10:00 to 12:20) is based on lasers making components out of metal alloys in powder form and plastics. Without tools – and with previously unimaginable design freedom.

Additive manufacturing is becoming an industrial process

3D printing is making enormous strides towards maturity. Both the powder bed process and laser deposition welding are gaining ground: metal powder in a protective gas is expelled from nozzles and fused with surfaces by laser – enabling worn and damaged areas on components to be repaired. This is complemented by preventive coating, which Trumpf has optimized in collaboration with the Fraunhofer Institute for Laser Technology (ILT). Area coverage rates in excess of 250 square centimeters per minute enable layer thicknesses of between 10 and 300 micrometers to be achieved. Because a fine laser focus is all it takes, the process is also more energy efficient than previous coating processes.

Nobel prize-winning technology: ultrashort-pulse laser

Ultrashort-pulse laser (USPL) technology, awarded the 2018 Nobel prize for physics, is rapidly breaking into industrial series production. Visitors to LASER

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World of PHOTONICS will doubtless encounter it. Ranged alongside specific USPL solutions by international exhibitors are networks such as the USPL innovation network by EurA AG, USPL conference organizers such as the Fraunhofer ILT and initiators of major research projects.

Including the Fraunhofer IOF, which is paving the way for a manufacturing technology revolution: Akin to the revolution spawned in the 1990s from the combination of glass fiber and solid-state lasers, optical fibers are now to distribute the energy from USPL lasers, paving the way for completely new applications. The ideas behind it resulted from direct dialogs with Nobel prizewinner Gérard Mourou. USPL technology will also be the subject of one of the application panels in June, where experts will highlight the "*Perspectives and challenges for applications with ultrashort-pulse lasers*" (June 24, 2019, 15:00 to 17:20).

Spotlight on manufacturing lasers at the World of Photonics Congress 2019

Taking place right next door in the ICM - Munich's International Congress Center - is the World of Photonics Congress with over 4,000 participants from more than 60 countries. The four-day Lasers in Manufacturing – LiM 2019 sub conference will be dedicated entirely to the use of laser systems in industrial manufacturing, from additive manufacturing via micro-processes to bonding, cutting and surface processing techniques – as well as the networking, control and simulation of these systems. The event organizer, The Scientific Laser Society (WLT), will lay on a fascinating blend of visions of the future, practical innovations and networking opportunities.

Further information, interviews, trends and topics can also be found in the [photonics industry portal](#), the information platform for photonics.

About LASER World of PHOTONICS

The LASER World of PHOTONICS is the world's leading platform for the laser and photonics industry. Europe's largest World of Photonics Congress will be taking place in parallel with the trade fair. The program comprises a variety of scientific conferences of leading global organizations. Supplementing this Messe München GmbH will be offering practical lectures on the applications of photonics ("Application Panels"). In 2017 the trade fair set an exhibitor record with 1,293 exhibitors from 42 countries. More than 32,000 trade visitors from 90

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countries entered the Messe München site. The World of Photonics Congress registered around 3500 participants, with around 3,000 lectures and presentations including poster presentations on offer. The LASER World of PHOTONICS has been organized by Messe München International every two years since 1973; the next event will take place in Munich from June 24–27, 2019, the next World of Photonics Congress will take place in parallel from June 23–27, 2019 in the ICM - International Congress Center Munich.

www.world-of-photonics.com

About the LASER World of PHOTONICS global network

The LASER World of PHOTONICS has developed an international trade fair network. The LASER World of PHOTONICS in Munich is the world's leading laser and photonics trade fair and as the innovation pacemaker is where the global photonics industry gathers every two years. The [LASER World of PHOTONICS CHINA](#) and the [LASER World of PHOTONICS INDIA](#) are leading regional trade fairs for laser and optical technologies and are staged annually in China (Shanghai) and in India (alternating between Bengaluru, Mumbai, Bangalore and New Delhi). With these trade fairs in Munich, China and India, Messe München is the world's leading trade fair organizer for lasers and photonics.

Messe München

Messe München is one of the leading exhibition organizers worldwide with more than 50 of its own trade shows for capital goods, consumer goods and new technologies. Every year, a total of over 50,000 exhibitors and around three million visitors take part in more than 200 events at the exhibition center in Munich, at the ICM – Internationales Congress Center München and the MOC Veranstaltungszentrum München as well as abroad. Together with its subsidiary companies, Messe München organizes trade shows in China, India, Brazil, Russia, Turkey, South Africa, Nigeria, Vietnam and Iran. With a network of associated companies in Europe, Asia, Africa and South America as well as around 70 representations abroad for over 100 countries, Messe München has a global presence.