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Press release

Optics manufacturing increasingly important LASER World of PHOTONICS 2015 provides comprehensive overview

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Munich. Whether ophthalmic lenses, bathroom fittings, displays, large-area LEDs, lenses or astronomical mirrors: Many items in daily use or in industrial manufacturing are made with manufacturing machines for optics. Optical components and beam sources are the pillars on which the market for optical technologies is built. A comprehensive overview of all this awaits visitors to LASER World of PHOTONICS 2015 from 22 – 25 June 2015 at the Messe München site. An important part of the exhibition at the world's leading trade fair is the “Optics and manufacturing technology for optics” area.

Optics make a critical contribution to innovation in the photonics industry. Because they make it possible to open up new areas where beam sources reach their limits. Along with the laser as a light source, the performance of photonic applications depends on the functionality of the optical components. For example, the (laser) light employed is shaped using mirrors or lenses, thus enhancing the application's accuracy and effect. For instance, greater processor performance in microelectronics and computer manufacturing is achieved if the information density on the chips is increased by using mirrors to shape the laser beams employed.

Optical machine manufacturers give fillip to photonics industry

Popular low-energy LED lamps also depend on optics manufacturing technologies: So-called free-form optics are used in high-performance LEDs in more recent street lamps.



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Matthias Pfaff, Head of the Precision Optics and Metrology Business Unit at OptoTech Optikmaschinen GmbH, explains: “free-form surfaces are used to shape short-wave beams and generate images from them. Shaping is no longer by a lens but by a mirror!” Technological progress is driving development in the direction of greater complexity of optical components. Narrow tolerances, the use of challenging glass varieties and very demanding geometries, for example, need to be taken into account when manufacturing computer chips. Pfaff added: “people are endeavoring to achieve ever greater information density on these chips. And this is only feasible by increasing the size of the projection optics used in the manufacturing of the chips or shortening laser wavelengths. The latter is now virtually impossible as there are material limits. But the beams can be shaped with various mirrors produced as free-form areas. Ultimately, it is this beam forming that paves the way for greater computer chip performance.” By its own account, his company boasts the world's most extensive offering of machines and processes for machining precision optics: for grinding, polishing and centering as well as for measuring and cementing devices.

More than 550 companies will be presenting optics manufacturing processes and equipment at LASER World of PHOTONICS 2015 as well as raw materials, optical fibers and lenses. Application panels in the visitor forums will be showcasing concrete applications. Notable speakers such as Dr. Edgar Willenborg of the Fraunhofer Institute for Laser Technology ILT have been invited to the panels where he will be talking about laser machining of glass.

Innovation enablers at the LASER World of PHOTONICS 2015

Optical machinery manufacturers are considered in this country to be powerhouses for new ideas and are highly innovative. They play a leading role in developing new features and in boosting optical component performance.

Ophthalmic and precision optical machine manufacturer SCHNEIDER GmbH and Co. KG was honored as a top innovator at the German SME summit 2014. Sales Director Dr. Thomas Danger currently sees various market developments in the

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industry: “especially topics such as higher productivity but also a high level of process reliability and manufacturing precision are attracting particular attention.”

Gerd Stach is Sales Manager at Satisloh GmbH, nominated for the German Federal Ecodesign Award 2014 for its ophthalmic glass production without the use of heavy metals. He cites the production of aspherical lenses as an important trend: “these are lenses with surfaces that depart slightly from the spherical form. They are based on a completely different manufacturing process to that used to manufacture spherical lenses. This requires high-precision machines.” Aspherical lenses are also used in ophthalmic optics. The advantage they offer compared with spherical, namely symmetrically shaped lenses, is that they do not cause any imaging artefacts.

The award-garlanded and prize-nominated optical machine manufacturers will be found at LASER World of PHOTONICS 2015 in Munich rubbing shoulders with leading innovators from the entire industry. This is where visitors will encounter all the players involved in the photonics application innovation process and in new markets in one location.

Press releases: [here](#)

More on World of Photonics Congress: [here](#)

Photos: [here](#)

About LASER World of PHOTONICS

The LASER World of PHOTONICS trade fairs and their congresses are the most important marketplaces and think tanks for the worldwide laser and photonics industry and its users. They combine research and applications and promote the utilization and further development of optical technologies.

Messe München International has held LASER World of PHOTONICS every two years since 1973. The fair was the first event to focus on the sector for optical technologies in the world.

At the same time the World of Photonics Congress - Europe's largest and the world's third biggest photonics congress - is held in cooperation with the world's leading organizations in this field.

A spin-off event, LASER World of PHOTONICS China, is the leading regional trade show for optical technologies in China. It takes place in Shanghai every year, in spring. The LASER World of PHOTONICS INDIA takes place since 2012 every year and is a regional trade fair for optical technologies in India. It takes place 23-25 September 2014 in Bangalore.

With a total of **1,860 exhibitors and more than 70,000 visitors** in Munich, Shanghai and India, Messe Muenchen International is the world's leading trade show organizer for lasers and photonics.

The websites at www.world-of-photonics.net feature information on the photonics trade shows, industry information, product innovations, and application reports and are a virtual platform for optical technologies.

About the conference program at the World of Photonics Congress

The world's leading scientific organizations in the field of photonics will organize conferences under the umbrella of the World of Photonics Congress from June 21 – 25, 2015:

- "CLEO/Europe-EQEC", organized by the European Physical Society (EPS), sponsored by the EPS Quantum Electronics and Optics Division, OSA, IEEE/LEOS
- "Optofluidics", "Manufacturing of Optical Components" and "Advanced Optomechanical Engineering", organized by the European Optical Society (EOS)
- "LiM - Lasers in Manufacturing", organized by the Scientific Laser Society (WLT);
- "ECBO - European Conference on Biomedical Optics", organized by the Optical Society of America (OSA) and the International Society for Optics and Photonics (SPIE)
- Optical Metrology, organized by SPIE Europe

The conference program is rounded out by application panels featuring practical lectures about laser and photonics applications organized by Messe München.

Messe München International

Messe München International is one of the world's leading trade show companies. In Munich alone it organizes around 40 trade shows for capital and consumer goods, and key high tech industries. Each year more than 30,000 exhibitors and around two million visitors take part in the events held at the Messe München exhibition center, the ICM – International Congress Center München, and in the MOC Veranstaltungszentrum München. The leading international trade fairs of Messe München International are all independently audited.

In addition, Messe München International organizes trade shows in Asia, Russia, the Middle East and South Africa. With nine affiliates abroad – in Europe, Asia and in Africa – and over 60 foreign representatives actively serving over 90 countries, Messe München International has a worldwide business network. The Group also takes a pioneering role as regards sustainability: It is the first trade-fair company to be awarded energy-efficiency certification from the technical inspection authorities TÜV SÜD.

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