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Press release

Imaging LASER World of PHOTONICS 2015 focuses on image processing

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Munich. Cameras and image processing systems are virtually ubiquitous in modern manufacturing processes. Numerous industries use them to ensure quality and optimize processes. Because optical image processing systems are capable of more accurate and higher stamina scrutiny than humans, imaging systematically detects sources of error.

LASER World of PHOTONICS, the world's leading trade fair, will shine a spotlight on this growth industry in June 2015 – as a dedicated exhibition segment and accompanied by a comprehensive supporting program. A dedicated “Machine Vision Pavilion” and practical lecture series invite visitors to discover modern image processing technology in all its diversity. Taking place in parallel under the umbrella of the World of Photonics Congress is the high-powered SPIE Optical Metrology Conference.

Imaging is part and parcel of modern manufacturing in the same way as laser systems. Both ensure flawless products and perfect processes. Since lasers and image processing are such a strong combination, they will be joining forces at the LASER World of PHOTONICS in Munich from 22 to 25 June 2015. And because image processing is also taking metrology and testing by storm thanks to 3D systems with accuracies in the order of microns, measurement and testing technology rounds off the leading international trade fair's core topic.

Imaging is on trend - and setting trends

Industrial image processing is growing inexorably: in Germany alone, the sector's turnover has risen from 230 million to 1.6 billion Euro since 1995. Double-digit growth is expected again in 2014. Underpinning the success are imaging systems' increasing capability and versatility coupled with ever greater simplicity of use.



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Standardized interfaces enable different manufacturers' cameras, light sources and computers to be networked on a plug&play basis. That means users can combine optimal modules for their individual applications from the growing offering of high performance components that will be on show at the LASER World of PHOTONICS.

This enables productivity gains through imaging to be achieved at lower cost. Since the cameras pick up the most minute process variances and the underlying principles behind recurring errors, users can take early countervailing action. That minimizes rejections and prevents further finishing or even delivery of defective parts with all the consequential costs. Instead of monitoring random samples, camera control confers real-time, hundred percent quality control directly on the production line. Combined with very high cycle rates. This is made possible by breathtaking bandwidth increases in standards such as USB 3 Vision with 400 megabytes per second (Mbytes/s), CoaXPress (up to 3,600 Mbytes/s) or CameraLink HS (up to 2,100 Mbytes/s) and ever more sophisticated algorithms.

LASER World of PHOTONICS offers an insight into the diversity of the imaging world

The breadth of applications is enormous: high speed cameras provide image-by-image visibility of ongoing processes in milliseconds. Other camera systems identify the slightest geometric distortion of complex components, the moment special light sources apply fringe patterns. Robots use lighting tricks such as this to identify the position of small dispersed elements. Even shiny surfaces and glass, which long marked the boundary for image processors, have lost their ability to instill fear thanks to optimized light sources and indirect analysis of reflections. 3D systems are on trend: they scan shapes with micron accuracy, enabling for example accurate volumetric analyses. In food factories, systems such as these determine the shape of individual salami or hams, thus calculating the exact weight of the individual slices even before they are cut and packed. Other imaging systems bathe processes in infra-red or ultraviolet light to make the invisible visible. Terahertz image processing affords profound insights into components without damaging them. This method is applied by aircraft and automotive manufacturers to search for air voids or

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microcracks in fiber-reinforced plastics.

Imaging also prominent in the supporting program

Exhibitors at the LASER World of PHOTONICS 2015 are contributing to the breadth of applications with innovative camera systems, light sources and optical components: these applications range from production control in micro-systems technology to high-tech sensors for space missions, from traffic monitoring to detecting an individual car's surroundings.

The "Machine Vision Pavilion" is where trade fair visitors can explore the benefits of complete imaging systems and new subcontracting solutions. Industry experts and practitioners will be talking about the performance of modern imaging systems at the Photonics Forum in Hall A2: The two and a half hour lecture series deal with "Contact-Free 3D Measurement Methods Ranging from Laser-Scanning to Imaging", "Terahertz Spectroscopy and Inspection in Industrial Applications" and "High Coherence Metrology from Long-Distance to Nanoscale Dimensions". At the same time there will be discussion of the latest inventions and applications in the optical measurement technology field at the World of Photonics Congress under the SPIE Optical Metrology umbrella. The conference will focus in particular on videometrics and machine-vision applications in industrial design, production technology, process monitoring, maintenance and service as well as vehicle navigation.

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 March.

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 every September, rotational either in Bangalore, Mumbai or New Delhi.

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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