

Lasers are Innovation Drivers in Manufacturing

Research in lasers for manufacturing keeps German production technology on competitive level

The use of lasers in manufacturing is an ongoing success story as the trade show Laser World of Photonics has once more demonstrated in June 2015 in Munich (see p. 49). Besides, the industrial penetration of lasers the research pipeline is also full of new ideas and developments. Many of them have been reported on the conference "Lasers in Manufacturing" (LiM) which has been held along with the trade show as part of the Photonics Congress. LiM has been organized by the German Academic Society of Laser Technology WLT which represents major research institutes in the area of laser technology in Germany.

Every year, WLT donates an award for the best doctoral thesis from its member institutes. This year the award has been presented during LiM to Dr. Stefan Hengesbach from Fraunhofer ILT for his work on frequency multiplexing in high power diode lasers (see p. 6). His work has set a milestone in the further increase of power and efficiency in direct diode laser processing. The award has been split with the other part presented to Dr.-Ing. Ulf Quentin from blz GmbH in Erlangen. In this research he has developed a new technique in flexible nanoscribing with nearfield effects. Both doctoral thesis impressively show that the dynamics and creativity of young scientists in the area of lasers in manufacturing is on a very high level.

The 4-day LiM conference has been attended by 450 people representing international academic researchers from all continents as well as visitors from industry. More than 200 presentations have been well balanced between high power applications and micromachining. Whereas the first topic is currently dominated by additive manufacturing the latter sees growing presentations in the use of ultrashort laser pulses. Both areas have been covered by plenary presentations. Dr.-Ing. Tobias Abeln as CTO from EOS GmbH has shown the latest developments in additive manufacturing as a new production paradigm. Prof. Wolfgang Sandner on the other hand has introduced the international Extreme Light Infrastructure project ELI with its race towards highest intensities at shortest laser pulses. The conference papers are a treasure chest full of new ideas for a bright future of lasers as a tool in future manufacturing. The articles presented in this issue are a further proof that the ideas do not run empty.



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