PRESS RELEASE

1st Conference on Laser Polishing LaP 2014

The Fraunhofer Institute for Laser Technology ILT established and hosted the first international conference on laser polishing. From May 6-7, 2014, over 70 local and international scientists and laser technology users from various sectors of the industry met in Aachen, Germany. During five different sessions, 14 speakers from six countries expounded topics related to the laser polishing of glass and metals.

Despite a steady increase in recent years in the number of working groups, publications and projects on the subject, laser polishing is still considered a niche technology. This prompted Fraunhofer ILT to organize the 1st Conference on Laser Polishing LaP 2014 in Aachen, Germany. Headed by Dr. Edgar Willenborg, their event created an international platform for exchanging scientific findings in the laser polishing field. A total of 14 lectures were held in English, providing over 70 participants from 10 countries with the opportunity to gain a comprehensive picture of latest scientific developments and first industrial applications of laser polishing.

Industrial laser polishing

Dr. Thomas Kiedrowski (Robert Bosch GmbH) introduced a metal polishing application that is already in use today and with which millions of components are laser-polished annually. His presentation centered on an example taken from CVT production. Two lectures given by Dr. Manyalibo Matthews (Lawrence Livermore National Laboratory) and Dr. Philippe Cormont (CEA CESTA) explained another way in which these new methods are being employed successfully, this being to repair optics for high-power laser systems by means of CO2 laser radiation.

Laser polishing equipment in action

In addition to the lectures, a further highlight for conference participants was a tour of the laboratories at Fraunhofer ILT that let them see the latest laser polishing machines and test set-ups. Among other things, visitors were shown a live demonstration of the adaptive laser polishing machine for the polishing of metal work pieces that was developed as part of the BMBF-funded ALPINE project.

Editorial Notes
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The success of the 1st Conference on Laser Polishing – LaP 2014 reflects the great interest the scientific and industrial communities have in this new manufacturing process. There is clearly a significant demand for a cost-effective, automated finishing process that offers an alternative to conventional abrasive methods. This demand will continue to drive research in this area in the future, so we can expect more exciting developments in the field of laser polishing to be unveiled at the 2nd Conference on Laser Polishing – LaP 2016 from April 26-27, 2016 in Aachen.

Picture 1:
Laser-polished asphere Ø64 mm made from BK7. Source: Fraunhofer ILT, Aachen.

Picture 2:
Spherical segment Ø80 mm made of turned 1.2343 steel (right) and laser polished (left). Source: Fraunhofer ILT, Aachen.
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