

PRESS RELEASE

PRESS RELEASEFebruary 12, 2020 || Page 1 | 4

“Laser Technology Live” at AKL’20 in Aachen and inauguration of new Battery Lab

AKL’20, the 13th edition of the “AKL – International Laser Technology Congress”, will take place in Aachen from May 6–8, 2020. It addresses the entire laser community: from laser manufacturers to experienced users and laser novices. A total of 87 speakers will present examples of innovative solutions from industrial practice and the latest research results, covering all target groups. As an added attraction, the 600-plus participants will be invited to experience “Laser Technology Live” in more than 90 presentations at the Fraunhofer Institute for Laser Technology ILT, which holds Europe’s largest laser park. The highlight of this year’s event is the inauguration of the institute’s new Battery Lab, which will showcase the use of lasers in the manufacture of battery cells and modules.

At the “Laser Technology Live” event at Fraunhofer ILT’s application center on May 7, 2020, AKL’20 attendees will be able to discuss new technological developments in depth with the Aachen-based researchers. The experts have prepared more than 90 live demonstrations covering a wide range of subjects, from the latest developments in additive manufacturing, process control and ultrashort pulse technologies to innovative beam sources and their applications in manufacturing, measurement and quantum technology.

Inauguration of Fraunhofer ILT’s new Battery Lab

“Laser Technology Live” will also be the setting for the inauguration of the institute’s new laboratory. Dedicated to research into laser processes in battery production, the Battery Lab has received some 3 million euros of funding from the European Regional Development Fund (ERDF). Covering almost 140 m², it is equipped with numerous different systems for the laser-based manufacturing of lithium-ion and solid-state rechargeable batteries.

These include roll-to-roll battery electrode coating systems used to dry and structure electrodes. This process increases the surface area of the electrode, thereby improving various performance characteristics of lithium-ion cells such as their energy storage capacity, charging rate, and available power. A coating system of this type will go into operation at the Battery Lab in Aachen toward the end of 2020. The cutting and drilling of battery components is another area in which laser technology could usefully replace conventional production processes.

Editorial Notes

Karima Gandt B. Sc. | Communications Group | Telephone +49 241 8906-505 | karima.gandt@ilt.fraunhofer.de

Petra Nolis M.A. | Group Manager Communications | Telephone +49 241 8906-662 | petra.nolis@ilt.fraunhofer.de

Fraunhofer Institute for Laser Technology ILT | Steinbachstraße 15 | 52074 Aachen, Germany | www.ilt.fraunhofer.de

FRAUNHOFER INSTITUTE FOR LASER TECHNOLOGY ILT

Battery cells are connected together to form modules, which are in turn connected together to create battery packs. The required electrical contacts are provided by welded copper and aluminum conductors. The laser is the ideal tool for joining these heat-sensitive materials, because it is able to produce reliable weld seams with a low energy input. The resulting direct metal bonds also have a lower electrical resistance than screw connections. Another advantage of laser joining is that the process can be automated and the weld seam quality can be monitored by means of built-in sensors. An automated battery assembly line including a welding machine and robot will be on show as part of the ILT's "Laser Technology Live" event.

PRESS RELEASEFebruary 12, 2020 || Page 2 | 4

Next-generation batteries

Since 2018, the European Regional Development Fund (ERDF) has been providing funding for the NextGenBat project which aims to strengthen the infrastructure in Aachen and Jülich for research on future battery generations. The existing research infrastructure in North-Rhine Westphalia is being expanded to create optimum conditions for companies in the region to participate in next-generation battery research and development. Alongside Fraunhofer ILT, other partners in this project include RWTH Aachen University and Forschungszentrum Jülich.

Have you booked your ticket for AKL'20 – International Laser Technology Congress?

The AKL'20 conference program and registration page can be found at www.lasercongress.org. There is an early-bird discount for everyone who registers by March 4, 2020, at the latest!

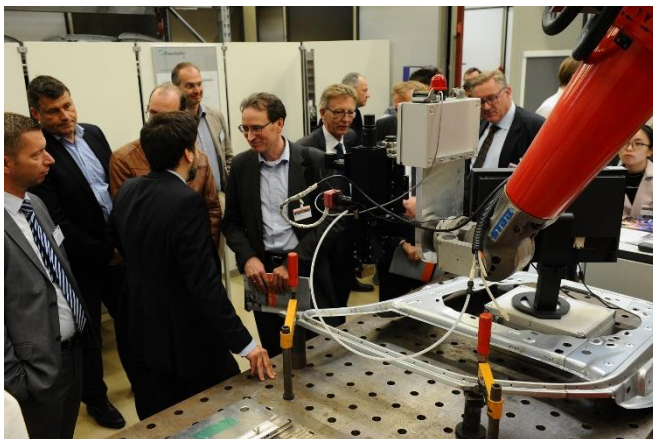


Image 1:
Visitors to AKL'20 will be invited to experience "Laser Technology Live" in more than 90 presentations at the Fraunhofer Institute for Laser Technology ILT, which holds Europe's largest laser park.
© Fraunhofer ILT, Aachen, Germany.

FRAUNHOFER INSTITUTE FOR LASER TECHNOLOGY ILT

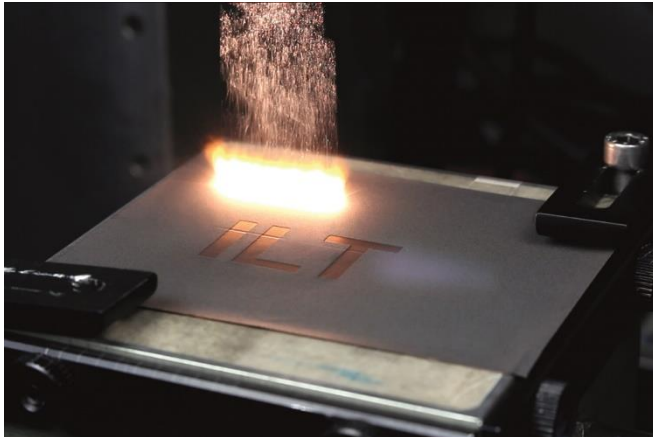


Image 2:
Structuring of electrodes:
Removal of the active
material on a copper foil.
© Fraunhofer ILT, Aachen,
Germany.

PRESS RELEASE

February 12, 2020 || Page 3 | 4

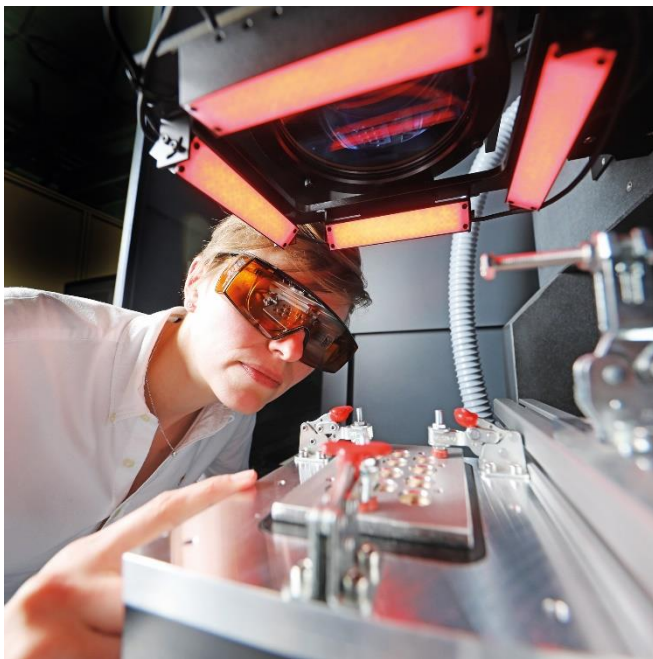


Image 3:
Setting up a laser welding
machine for the assembly
and contacting of battery
modules.
© Fraunhofer ILT, Aachen,
Germany / Andreas Steindl.

FRAUNHOFER INSTITUTE FOR LASER TECHNOLOGY ILT



Image 4:
AKL – International Laser Technology Congress:
Europe's leading forum for applied laser technology in production.
© Fraunhofer ILT, Aachen, Germany.

PRESS RELEASE

February 12, 2020 || Page 4 | 4

The **Fraunhofer-Gesellschaft** is the leading organization for applied research in Europe. Its research activities are conducted by 72 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of more than 26,600, who work with an annual research budget totaling 2.6 billion euros. Of this sum, almost 2.2 billion euros is generated through contract research. Around 70 percent of the Fraunhofer-Gesellschaft's contract research revenue is derived from contracts with industry and from publicly financed research projects. International collaborations with excellent research partners and innovative companies around the world ensure direct access to regions of the greatest importance to present and future scientific progress and economic development.

Contact

Dipl.-Betw. Silke Boehr | Group Manager Marketing | Telephone +49 241 8906-288 | akl@lasercongress.org

Dr.-Ing. Alexander Olowinsky | Group Manager Micro Joining | Telephone +49 241 8906-491 | alexander.olowinsky@ilt.fraunhofer.de

Fraunhofer Institute for Laser Technology ILT | Steinbachstraße 15 | 52074 Aachen, Germany | www.ilt.fraunhofer.de | www.lasercongress.org