

FRAUNHOFER INSTITUTE FOR LASER TECHNOLOGY ILT

# PRESS RELEASE

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## 8<sup>th</sup> UKP Workshop: High-power lasers and new technologies for material processing

**On April 8 and 9, 2025, the UKP workshop will once again open its doors and bring together experts from industry and research at the venue DAS LIEBIG in Aachen. As the most important platform for material processing with ultrashort pulse lasers, this event not only offers visitors the latest insights into technological advances, but also a unique opportunity to discuss the latest applications and solutions.**

This year's UKP workshop is all about scaling and increasing productivity through innovative system technology. Key topics include beam shaping, fast beam deflection and the use of high-power beam sources. As in previous years, the industry get-together is being organized by the Fraunhofer Institute for Laser Technology ILT in Aachen.

Practical applications and technical developments will be presented in the lectures, including the integration of high-power applications and various beam shaping technologies. This will provide participants with a comprehensive overview of current research and practical solutions crucial for future material processing.

### Exciting presentations from industry and research

"The 8<sup>th</sup> UKP workshop will also impress visitors with top-class speakers and an exciting program of presentations covering the most important technological trends and industrial applications," promises Dr. Dennis Haasler, who will be leading the program and is the Group Leader Micro and Nano Structuring at Fraunhofer ILT. Highlights of the first day include the Beam Shaping Session, in which three different solutions for beam shaping and beam splitting will be presented by HoloOr, Hamamatsu and Silicon Light Machines. In the Applications Session on the first day, Roswitha Giedl-Wagner and Florian Lendner from GFH GmbH will present smart solutions for industrial laser material processing. Other highlights include presentations by Paul Buske, Chair of Technology of Optical Systems TOS at RWTH Aachen University, and Martin Osbild and Martin Kratz from Fraunhofer ILT on design and material processing using SLM beam forming.

After the presentations, Fraunhofer ILT invites you – for the first time – to an exclusive tour of the institute's locations on the Melaten campus as part of the Marketplace. A

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free shuttle transfer will take participants comfortably from DAS LIEBIG to the campus and back again. The guided tour provides practical insights into current high-power laser applications, large-area component processing, and the latest developments in system technology for ultrashort pulse material processing. Participants will experience how cutting-edge technology is applied directly in research – from live demonstrations of innovative processing methods to the presentation of state-of-the-art machine designs.

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The second day will focus on topics such as the latest advances in non-linear pulse compression and its applications, presented by Prof. Dr. Oleg Pronin from N2-Photonics. The Process Scaling Session will focus on different system technologies to increase productivity. Here, the use of cascaded scanning systems from Scanlab will be demonstrated, Aerotech will present its activities on high-speed galvo-scanners and Moewe will present possibilities for fast beam deflection for microstructuring using polygon scanners. In the second Applications Session, Dr. Jens Ulrich Thomas from Schott will provide practical insights into USP glass bonding and Alexander Kanitz from Lidrotec GmbH will present USP material processing in liquids.

### **Networking and professional exchange: the UKP workshop as the place to be for the industry**

"The UKP workshop is traditionally not only a place to see technical innovations, but also for experts to exchange valuable information on ultrashort pulse laser technology," explains Dennis Haasler. "The accompanying exhibition also gives visitors the opportunity to talk directly to leading companies and discuss specific questions about current developments or technologies." This unique networking and exchange format makes the workshop a key event for the industry.

Thanks to this, the UKP workshop is more than just a specialist conference: With over 150 participants expected, the workshop offers a unique platform for making new contacts and discussing practical solutions to current challenges in materials processing. The event specifically promotes the exchange between participants and industry representatives, between application and research, resulting in new collaborations and solutions.

"The UKP workshop is aimed at experts from industry, science and development who want to gain insights into the latest ultrashort pulse laser material processing technologies and expand their networks," says Dr. Christian Vedder, head of the Department Surface Technology and Ablation at Fraunhofer ILT. "The event not only features high-quality presentations, but also shows practical applications and provides excellent opportunities for direct personal exchange. Anyone who wants to experience

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technological innovations first-hand and meet potential cooperation partners will find the ideal platform here."

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**Image 1:**  
The UKP workshop, the largest event in the field of ultrashort pulse laser material processing, is once again inviting industry and research experts to present and discuss innovative applications and new research results.

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**Image 2:**  
In addition to theoretical discussions, the workshop will also offer practical insights: The presentation of the kilowatt ultrasonic machining station at Fraunhofer ILT will demonstrate innovative material processing methods that show the potential for extremely productive manufacturing.

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**Image 3:**  
The UKP workshop is a unique platform where science and industry meet to discuss solutions to current challenges.  
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Founded in 1949, the organization currently operates 76 institutes and research facilities in Germany. Its current workforce of just under 32,000 employees, most of whom are trained in the natural sciences or engineering, generate an annual financial volume of around €3.4 billion. Of this, € 3.0 billion is spent on contract research.

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