Program of the Technological Conference

AKL '26

Technology Business Day
Wednesday, April 22, 2026

10:00 a.m. to 12:00 p.m.

Photonic and Laser Markets – Market Data and Insights
Room: Europa
Moderation: Axel Bauer, Fraunhofer ILT (D)

- Dr. Thierry Robin, TEMATYS (F) – World Market
  Global & European laser sources market: Key dynamics and trends article → page 30
- Dr. Stefan Ruppik, Coherent Corp. (D) – European Market
  Shaping the future: The German laser market and emerging technologies
- Dr. Henrikki Pantsar, TRUMPF Inc. (USA) – US Market
  Status quo and prospects of the US laser market
- Dr. Bo Gu, BOS Photonics (USA) – Chinese Market
  Status quo and prospects of the Chinese laser market

2:00 to 5:30 p.m. (parallel sessions)
Target Markets for Laser Solutions

Automotive
Room: Brüssel
Moderation: Dr. Alexander Olowinsky, Fraunhofer ILT (D)

- Marco Wenk, J. & F. Krüth GmbH (D)
- Dr. Jan-Philipp Weberpals, AUDI AG (D)
- Carsten Merklein & Florian Doerrfuss, Schaeffler Technologies AG & Co. KG (D)
- Markus Harke, Volkswagen AG (D)
- Dr. Andreas Russ, Bosch Manufacturing Solutions GmbH (D)
  Next generation battery production and challenges for laser technology article → page 56

Aerospace
Room: K1
Moderation: Dr. Alexander Olowinsky, Fraunhofer ILT (D)

- Dr. Andy Norton, Rolls-Royce plc (UK)
- Dr. Domenico Furfari, Airbus Operations GmbH (D) – TBC
- Harald Betsch, Liebherr-Aerospace Lindenberg GmbH (D)
- Dr. Tobias Dyck, 4JET microtech GmbH (D)
- Dr. Bernhard Richerzhagen, Synova S.A. (CH)

Energy
Room: K4 + K5
Moderation: Dr. Tim Lantzsch, Fraunhofer ILT (D)

- Dr. Steffen Berger, Schaeffler Technologies AG & Co. KG (D)
- Dr. Angelika Kiefel, ADMOS Gleitlager GmbH (D)
- Niels Krauch, Photonics Systems Group (D)
- Florian Weil, Weil Technology GmbH (D)
- Simon Vervoort, Everllence SE (D)

Microelectronics
Room: K7-K9
Moderation: Dr. Christian Vedder, Fraunhofer ILT (D)

- Stefan Janssen, LG Electronics Inc. (KOR)
- Dr. Christian Buchner, SCHMID Group | Gebr. SCHMID GmbH (D)
- Oliver Haupt, Coherent Corp. (D)
- Dr. Ralf Hammer, ASML Berlin GmbH (D)
- Benjamin Bernard, DISCO HI-TEC Europe GmbH (D)

Quantum Technology
Room: K2
Moderation: Dr. Bernd Jungbluth, Fraunhofer ILT (D)

- Prof. Stephanie Wehner, TU Delft (NL)
- Dr. Juris Ulmanis, Alpine Quantum Technologies GmbH (AT)
- Andreas Gritsch, TUM Center for Quantum Engineering (D)
- Dr. Sebastian Blatt, PlanQC GmbH (D)
- Prof. Hendrik Bluhm, ARQUE Systems GmbH (D)

Medical Technology
Room: K3
Moderation: Dr. Achim Lenenbach, Fraunhofer ILT (D)

- Dr. Wenko Süptitz, SPECTARIS e.V. (D)
- Dr. Gerald Kunath-Fandrei, Carl Zeiss Meditec AG (D)
- Frank Reinauer, KLS Martin SE & Co. KG (D)
- Prof. Christian Blume, Uniklinik RWTH Aachen – Department of Neurosurgery (D)
- Dr. Markus Röhner, CeramOptec GmbH / Biolitec (D)

Evening Event
7:00 to 11:00 p.m.

Dinner with Presentation of the "Innovation Award Laser Technology 2026"

Venue: Coronation Hall of Aachen's Town Hall
(Separate registration required, limited space available)

Laser Technology Conference
Thursday, April 23, 2026

8:30 a.m. to 12:00 p.m.

Gerd Herziger Session
New Perspectives for Lasers in Science and Industry
Room: Europa
Moderation: Dr. Jochen Stollenwerk, Fraunhofer ILT (D)

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  Opening Talk –
  Scaling photons, scaling impact: High average power, high pulse energy, and intelligent control
- Damien Buet, Amplitude Laser Group (F)
  The next challenges for high intensity lasers in science and industry
- Trevor D. Ness, IPG Photonics Corporation (USA)
  New Perspectives for Lasers in Science and Industry
- Dr. Christopher Dorman, Coherent Corp. (USA)
  Harnessing photons: Engineering light from science to industry
- Dr. Hagen Zimer, TRUMPF Lasertechnik SE (D)
  Challenging times for laser technology & future perspectives
- Prof. Constantin Häfner, Fraunhofer-Gesellschaft e.V. (D)
  Laser power unleashed: Driving fusion energy and industrial ecosystems

Panel Discussion
High Power and High Energy Lasers – Quo Vadis?
- With the speakers of the Gerd Herziger Session

Sessions 1–4 (parallel) | 2:00 to 3:30 p.m.

1 Additive Manufacturing
Room: K4 + K5

Laser Powder Bed Fusion LPBF
Moderation: Dr. Tim Lantzsch, Fraunhofer ILT (D)

- Dr. Harald Lemke, MacLean Additive (USA)
  Towards profitable L-PBF 3D-Printing of large industrial tooling
- Dr. Jacob Rindler, The Exploration Company GmbH (D)
  Additive manufacturing: The technology powering the next generation of space companies
- Daniel Mahlmann, Nikon SLM Solutions AG (D)
  Modern approaches to enhanced control over the LPBF process

2 Cutting
Room: Brüssel

Laser Cutting
Moderation: Dr. Frank Schneider, Fraunhofer ILT (D)

- Stoyan Stoyanov, Fraunhofer ILT (D)
  Adaptive laser beam shaping to minimize burr formation in laser cutting: Simulation and experiment
- Mathias Bühler, ANDRITZ Schuler Pressen GmbH (D)
  Laser notching for battery production: Precision at increasing speeds and new materials
- Fahrettin Uçar, IPG Photonics GmbH & Co. KG (D)
  Advantages of ultra-high-power laser cutting over plasma cutting article → page 46

3 Laser Beam Sources I
Room: K1

Solid State and Fiber Lasers
Moderation: Dr. Patrick Baer, Fraunhofer ILT (D)

- Dr. Mauritz Möller, TRUMPF Laser- und Systemtechnik SE (D)
  Ultra-high-power lasers with output powers >100 kW
- Andrey Gorskiy, IPG Photonics GmbH & Co. KG (D)
  Next generation, industrial grade, high-power CW fiber laser with >100 kW
- Dr. Robert Bernhard, Civan Lasers Europe GmbH (D)
  100+ kW dynamic beam lasers: system architecture, coherent beam combining and its applications

4 Laser Beam Sources II
Room: Europa

High Energy Sources for Fusion and Secondary Sources
Moderation: Dr. Patrick Baer, Fraunhofer ILT (D)

- Dr. Bernd Metzger, TRUMPF Laser- und Systemtechnik SE (D)
  High-energy (10 J) and high average power (1 kW) Multi-Slab amplifier for industrial secondary source application
- Prof. Dr. Markus Roth, Focused Energy GmbH (D)
  Requirements and current status of high energy lasers for inertial fusion (TBC)
- Dr. Paul Mason, DiPOLE Systems Ltd. (UK)
  Status of 100 J class lasers and outlook on further energy scaling

Laser Technology Live
4:30 to 7:30 p.m.
Over 60 Live Presentations with Scientists on site
Venue: Research laboratories of the Fraunhofer ILT and the Center for Digital Photonic Production (with shuttle transfer)

Evening Event "30 Years AKL"
8:00 to 11:00 p.m.
Market Place and Business Exchange with Snacks
Venue: Eurogress Conference Center – Exhibition area
(Registration required)

Program to date 2 March 2026,
subject to change without notice.

Online updated version:
https://lasercongress.org/en/program

Laser Technology Conference
Friday, April 24, 2026

Sessions 5–8 (parallel) | 8:30 a.m. to 4:00 p.m.

5 Surface Technology
Room: K4 + K4

Laser Material Deposition
Moderation: Dr. Thomas Schopphoven, Fraunhofer ILT (D)

- Adam Dmytryszyn, ILJIN GmbH (D)
  Noise elimination coating for automotive wheel hubs using EHLA
- Yann Besner & Philippe Laplante, Tekad industries inc. (CA)
  Speed meets strength: EHLA coatings for next-generation hydraulic components
- Viktor Glushych, Fraunhofer ILT (D)
  Simultaneous finishing in the EHLA process – Fundamentals, challenges, and potentials

Microstructuring
Moderation: Dr. Dennis Haasler, Fraunhofer ILT (D)

- Sönke Vogel, Fraunhofer ILT (D)
  Boosting productivity with high power lasers & optical stamping
- Jochem Peeters, Millux B.V. (NL)
  Surface structuring development within a service company
- Dr. Stefan Rung, Schmoll Maschinen GmbH (D)
  Laser drilling of PCBs – Process and Challenges

Thin Film Processing and Laser-based Optics Manufacturing
Moderation: Dr. Samuel Fink, Fraunhofer ILT (D)

- Dr. Edgar Willenborg, Fraunhofer ILT (D)
  Recent developments in laser-based optics manufacturing
- Dr. Karsten Braun, Innolite GmbH (D)
  Selective laser etching on ultra-precision turning machines for optical fabrication
- Dr. Sebastian Geburt, Innovavent GmbH (D)
  Large area laser processing for thin film applications

6 Optical Systems
Room: Brüssel

Beam Shaping and Guiding
Moderation: Dr. Martin Traub, Fraunhofer ILT (D)

- Dr. David Dung, Midel Photonics GmbH (D)
  3D beam shaping made easy – A new era of industrial laser processing
- Gwenn Pallier, Cailabs (F)
  Scaling up fiber-coupled femtosecond lasers at high power thanks to robust passive stabilization based on MPLC technology
- Dr. David Blazquez-Sanchez, Precitec GmbH & Co. KG (D)
  Beam shaping for continuous idustrial operation – Fixed and variable magnification up to 85 kW article → page 41

Joining
Room: Brüssel

Joining of Metals
Moderation: Dr. André Häusler, Fraunhofer ILT (D)

- Dr. Michael Stapelbroek, FEV Europe GmbH (D)
  Laser-welding in automotive battery system development – Bridging innovative design, manufacturing and global production challenges
- Dr. Martin Reimann, Olympus Surgical Technologies Europe (D)
  Laser micro welding of metallic materials for medical technology products
- Jan Brüggenjürgen, Fraunhofer ILT (D)
  Making the invisible visible – Real-time analysis and technological developments in laser joining article → page 50

Joining of Plastics and Transparent Materials
Moderation: Dr. Maximilian Brosda Flockenhaus, Fraunhofer ILT (D)

- Thomas Sontheimer, LPKF WeldingQuipment GmbH (D)
  Professional inline thermographic monitoring in laser plastic welding – from the concept phase to mass production scale
- Dr. Jens Ulrich Thomas, SCHOTT AG (D)
  Even under pressure: stress-free ultrashort pulse welding of glass and metal
- Christoph Wortmann, Fraunhofer ILT (D)
  Development and evaluation of laser-based cleaning for the reuse of stainless steel in plastic-metal hybrid joints

7 Laser Beam Sources III
Room: K1

Ultrashort Pulse Lasers
Moderation: Dr. Peter Rußbüldt, Fraunhofer ILT (D)

- Dr. Martin Gorjan, MKS Inc. (AT)
  Development of high-power UV femtosecond laser systems
- Dr. Keming Du, EdgeWave GmbH (D)
  Power/energy scaling and parameter enhancement of ultrashort pulse lasers for industrial applications
- Dr. Andrejus Michailovas, Ekspla UAB (LT)
  Flexible pulse management for applications: Challenges in ultrafast laser development

Lasers with Tailored Wavelengths
Moderation: Dr. Michael Strotkamp, Fraunhofer ILT (D)

- Dr. Alexander Munk, Fraunhofer ILT (D)
  Diode-pumped Alexandrit lasers: A novel technology for narrow-bandwidth tunable lasers in the IR and UV
- Dr. Konstantin Holzner, TOPTICA Projects GmbH (D)
  High-performance monochromatic lasers in the visible spectral range and their application in astronomy and quantum technology article → page 36
- Dr. Toby Strite, IPG Photonics Corporation (USA)
  Nanosecond DUV Laser Alternative for Micromaterial Processing

Diode Lasers
Moderation: Dr. Sarah Klein, Fraunhofer ILT (D)

- Dr. Florian Lenhardt, Coherent Corp. (D)
  Direct diode laser solutions for drying applications
- Dr. Ulrich Witte, Laserline GmbH (D)
  Megawatt class laser diode pump systems for inertial fusion
- Dr. Martin Behringer, ams-OSRAM International GmbH (D)
  New developments for improved efficiency and output power from laser diodes

8 AI in Photonics
Room: Europa

Process Monitoring
Moderation: Peter Abels, Fraunhofer ILT (D)

- Jon Tatman, EPRI Welding & Repair Technology Center (USA)
  The use of AI in welding
- Dr. Michael Ungers, Scansonic MI GmbH (D)
  AI-based quality and parameter prediction for industrial laser brazing
- Julius Neuß, Fraunhofer ILT (D)
  "Self-supervised learning" – the fast track to applying robust artificial intelligence in photonics

Process Control and Optimization
Moderation: Dr. Annika Bonhoff, Fraunhofer ILT (D)

- Dr. Andreas Heider, Robert Bosch GmbH (D)
  Data-driven process maps for laser welding: Accelerating development and predicting weld quality
- Roland Bader, Bystronic Laser AG (CH)
  Multimodal deep learning for real-time laser cutting monitoring and control
- Moritz Kröger, RWTH Aachen University – Chair for Laser Technology LLT (D)
  Autonomous process optimization in ultrashort pulse ablation

Design and Modeling of Laser Processes and Optics
Moderation: Prof. Carlo Holly, Fraunhofer ILT (D)

- Eric Mottay, h-nu (F)
  Machine learning for predictive control in USP processing
- Martin Stambke, TRUMPF Laser SE (D)
  AI for optical design – Industrial user prospective
- Sergii Denega, ASML Netherlands B.V. (NL)
  AI for optical design – Industrial user prospective

Closing Lecture | 4:00 – 4:30 p.m
Room: Europa

Looking Ahead:
The Future of Digitization and AI in Photonics
Prof. Carlo Holly, Fraunhofer ILT / RWTH Aachen University – Chair for Technology of Optical Systems TOS (D)