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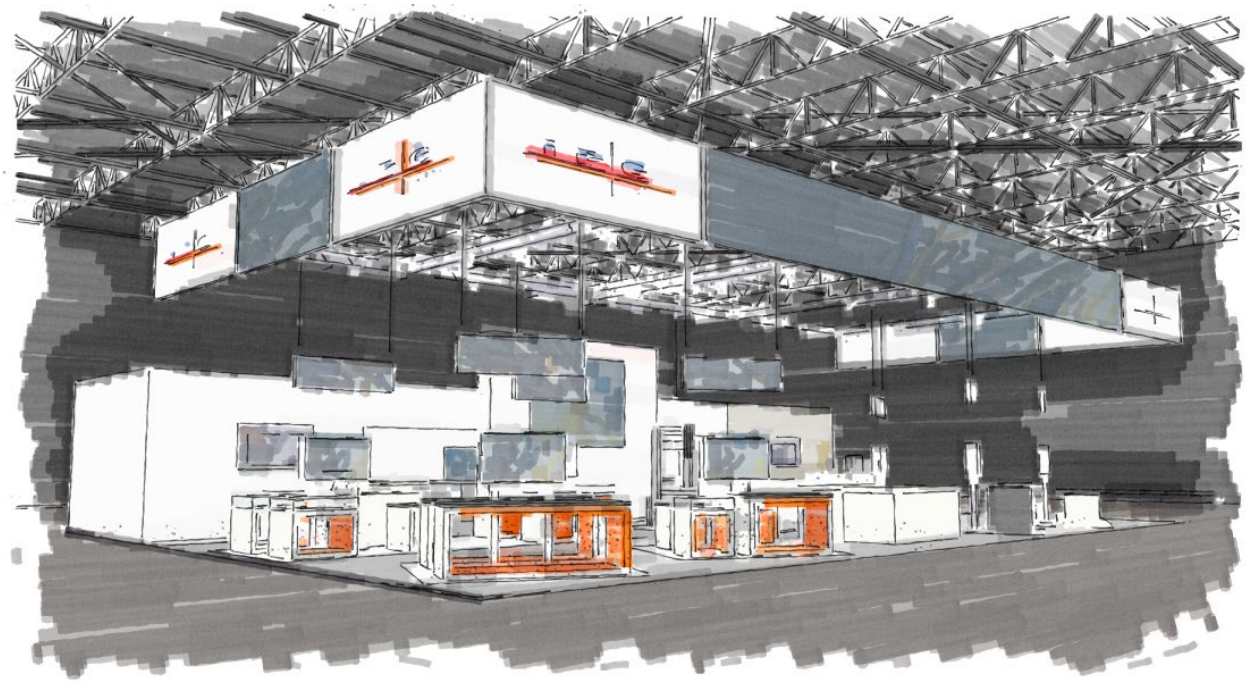
IPG presents new technologies, products and solutions for e-mobility manufacturing, materials processing and specialized applications at LASER World of Photonics

IPG Photonics will highlight new and innovative fiber laser solutions at LASER World of Photonics on June 27 – 30, 2023 in Munich, Germany. The 400+ m^2 booth displays include a staggering range of laser sources, laser system demonstrations, and integrated solutions along with numerous showcases full of application samples.

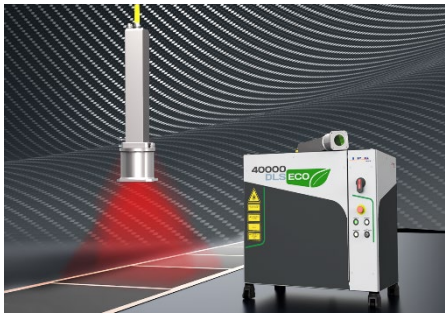


Powering E-Mobility Manufacturing with High-Productivity Laser Technologies

Building off an already impressive offering of dual-beam fiber lasers, IPG introduces new adjustable mode beam (AMB) sources which enable higher-precision, and higher-quality processing for EV applications. Available as either single-mode (with the highest beam quality in the world) or multi-mode configurations with dynamic and independent control of the core and ring beams, these flexible laser sources enable high-speed, spatter-free welding for the most sensitive and critical components across the EV battery manufacturing process. Additionally, new air-cooled AMB laser sources with quasi-continuous wave (QCW) capability provide pulses of 10X peak power for processing sensitive materials with low heat input and low operating costs.

AMB lasers are being implemented globally in increasing numbers due to their performance, productivity and reduction of defects. Many essential EV manufacturing processes rely on AMB lasers, which have become the technology of choice for high-speed welding of cells to busbars for all battery types, cap-to-can joining, and thin dissimilar metals welding as just a few of the many examples benefiting from this advanced laser technology.

"Cold Oven" Laser Diode Heating replaces Traditional Furnace Drying Infrastructure

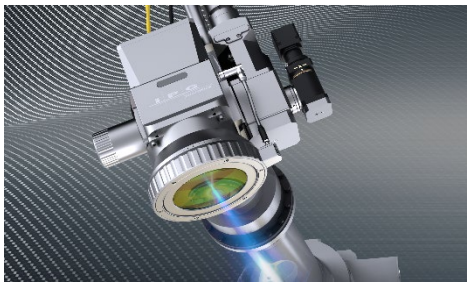


Designed to replace less efficient infrared bulb and convection drying furnaces, IPG's new high-power laser diode sources enable dramatically faster heating and drying while delivering drastically higher energy efficiencies reducing the cost of ownership. The compelling benefits of IPG's novel diode thermal processing is lower waste heat generation, up to 4X smaller footprint, and the ability to introduce thermal metrology for tighter process control. These advantages make IPG laser diode heaters an obvious choice for drying applications of battery slurries, paint coatings and even semiconductor wafer heating.

High-Efficiency Laser Sources to meet High Sustainability Targets

IPG delivers on its commitment to produce the most efficient lasers in the industry with the introduction of new ECO series high-efficiency laser sources, providing reliable high power which lowers overall production costs with fast return on investment. With over 50% energy efficiency, these sources help manufacturers meet their sustainability targets to reduce energy consumption and CO_2 emissions without sacrificing quality or throughput. Available in racks and cabinets, newer ultra-compact ECO fiber lasers complement the advanced product line and pack in high power and high efficiency into smaller form factors for simpler and more flexible factory integrations.

Remote Welding with Real-Time Laser Weld Measurement Increases Quality



Industrially designed, compact and lightweight remote welding heads boast the highest laser power handling in the industry providing ultra-stable welding processes across the full power range. Combined with LDD real-time weld measurement, these welding solutions help manufacturers reduce their reliance on costly and time-consuming destructive testing of parts to determine weld quality. Real-time weld measurement provides unmatched quality assurance with pre-, post- and in-process

weld analysis on every weld of every part enabling effective rework and ensuring only parts within specifications receive further investment in subsequent assembly steps.

New Central Control Unit and Laser Processing Software Greatly Simplifies Integration and Programming

Simplified connectivity and control are now available through a new single interface which directly connects laser sources, beam delivery, computers, weld measurement and other key controls to the wider manufacturing execution systems (MES). This plug-and-play architecture both eases and speeds up the installation of components while simplifying setup and operation of the laser application.

New releases of software suites with vastly expanded functionality enable faster programming of remote welding applications even for fully automated on-the-fly processes. IPG software is designed to provide powerful features with a simple and intuitive user interface for remote processing applications including cutting, welding, cleaning and marking.

About IPG Photonics Corporation

IPG Photonics Corporation is the leader in high-power fiber lasers and amplifiers used primarily in materials processing and other diverse applications. The Company's mission is to develop innovative laser solutions making the world a better place. IPG accomplishes this mission by delivering superior performance, reliability and usability at a lower total cost of ownership compared with other types of lasers and non-laser tools, allowing end users to increase productivity and decrease costs. IPG is headquartered in Marlborough, Massachusetts and has more than 30 facilities worldwide. For more information, visit www.IPGPhotonics.com.

Visit the IPG booth in Hall B3 at the Trade Fair Center Messe München or online to learn more about these and other new fiber laser technologies and solutions.