

## **On the Fly Laser Welding Solutions**

Daniel Lück

*Daniel Lück - Business Development Director E-mobility EU, IPG Laser GmbH & Co. KG, Carl-Benz-Straße 28, 57299 Burbach, Germany*

*Corresponding author: [dlueck@ipgphotonics.com](mailto:dluck@ipgphotonics.com)*

With increasing price pressures and rising quality standards in today's electric vehicle (EV) production, innovation is essential to maintain competitive advantages through cost-effective and state-of-the-art manufacturing processes.

IPG Photonics has developed a unique combination of Single Mode On-the-Fly Welding and their 100% inline process monitoring tool, LDD, to deliver significant advantages to users.

This integration of On-the-Fly Welding with a Single Mode AMB Laser and the LDD tool enables extremely fast welding speeds of up to 1,000 cylindrical cell connections per minute while maintaining stringent quality control through 100% weld depth penetration measurements. This guarantees the highest quality welds and maximizes production efficiency with minimal parts per million (ppm) errors. As a result, cycle times are shortened, and scrap rates are minimized, leading to a reduction in rework and scrap components. These improvements in efficiency and quality control lead to a clear competitive advantage and contribute to cost savings.

This presentation will get into some examples of the mentioned process and technology on selected applications for On-The-Fly Welding with OCT quality monitoring.