PROBLEM/ISSUE ADDRESSED
Identify the Electrical and Mechanically Quality of every joint in Battery Assembly Laser welding applications is out of most importance for achieving zero-defect in Battery manufacturing, reducing their cost and provide the means for repairing and quality optimization operations

SOLUTION
An Infrared-vision Edge System for real time Quality inference:
- Off-axis setup ensures easy installation without need coupling with Laser Machinery optics
- Supervised Machine Learning standardizes model reconfiguration
- Almost 100% accuracy classification with only 3 features limits the data requirements
- Web-based interface enables real-time data visualization without any software installations

WHY IT IS IMPORTANT FOR SOCIETY
- Strengthening the position of EU battery assemblers as the EU Automotive companies
- Contribute to the cost reduction of e-mobility & welding applications
- Introduce Industry 4.0 Quality control practices into real-production scenarios

" Thanks to EIT we are able to make Quality Assessment of Laser-welded joints 100% Online & Automated for Battery Assembly applications "

MAIN RESULTS & INSIGHTS

- 100% Electrical & Mechanical Quality Assessment of laser-welded joints
- Eliminate the need for offline weld inspection
- Provide traceability for repair welding operations
- Educate students & engineers on the welding applications for e-mobility

PROF. PANAGIOTIS STAVROPOULOS
Manager Project Manager at LMS
MAIN PRODUCT
ZELD-e Full System
AIM: Enhance the laser welding of EV's Batteries

https://twitter.com/ZELD_e
https://linkedin.com/company/zelde

eit Manufacturing

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