



# The "Radicle" project: Developing a real-time dynamic control system for laser welding

The recently started European "Radicle" project aims to develop a laser welding adaptive control system that can integrate sensor data in real time to adjust the process parameters and deliver welded joints with zero defects. The automotive, aerospace and power generation equipment industries represented in the project are of key strategic importance to Europe.

Manufacturing is increasingly challenged by continuously and rapidly changing market conditions and increasingly shorter time-to-market requirements. Production has to respond faster and more efficiently to higher complexity and frequently changing designs. As a sophisticated and increasingly widely used process, laser welding is a high performance joining process which offers significant benefits over conventional arc based welding, for industries such as the automotive industry, the aerospace industry and the power generation equipment.

The "Radicle" project (Real-time dynamic control system for laser welding) is part of the "Horizon 2020 Factories of the Future" call and it is directly focused on zero-failure laser-based manufacturing. The project aims to create a multi-sensor, real-time adaptive control system for laser welding that can deliver zero defects. The overall impacts aim to increase productivity, remove need for large enclosed remote welding rooms and increase health and safety benefits.

The project, with a duration of three years, is coordinated by the Manufacturing Technology Centre (UK). To ensure industrial relevancy and uptake, a group of industrial companies are partnering with MTC – Alstom (Switzerland), Rolls-Royce (UK), GKN Aerospace (Sweden) and Fiat (Italy). These companies have significant market share in the critical automotive, aerospace and power generation markets. Providing the process and sensor knowledge are Laser



Optical Engineering (UK), Permanova (Sweden), TWI (UK) and VTT (Finland), each contributing with their unique skills and competencies on specific fields necessary to develop this project. The EWF – European Welding Federation will lead the project's dissemination and business planning activities.

By teaming together some of the leading technical experts in the field of laser welding, the "Radicle" project will enable these world-leading organisations to create an effective solution that will strengthen and reinforce the EU's position in both laser welding and high value manufacturing. Further information is available on the project website at [www.radiclelaser.com](http://www.radiclelaser.com). (According to press information from EWF)



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