REDAMP

2020

A project by

eit Manufacturing

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Real time monitoring of DED additive manufacturing processes for zero defect manufacturing

Sustainable Production | Digitalisation | Additive Manufacturing

Project consortium

Cocas

University of Applied Sciences and Arts of Southern Switzerland SUPSI

Tekniker MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

cea

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Summary

The project focused on monitoring additive manufacturing processes based on Direct Energy Deposition (DED); these processes are an alternative to traditional manufacturing and can reduce production costs compared to casting and subsequent operations. On the other hand, the technology can also used to extend the lifetime of parts by repairing or refurbishing them. However, current DED technologies are still prone to trial and error to produce zero-defect parts that meet the expected quality due to a lack of process monitoring tools and integrated diagnostics.

The REDAMP project consortium targeted these issues and solved this problem through a monitoring system that can detect defects immediately during the manufacturing process. The Solution uses an AI algorithm and data gathered from various sensors. In 2019, the spin-off Guaranteed was founded, which markets the developed solution.

Guaranteed

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