

Project Idea	Advanced Metal Repair Solutions for Complex Components
Organization name, town and country	University of Firenze, Italy, Firenze
Addressed topic(s)	<p>HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-01: Integrated approaches for remanufacturing (Made in Europe Partnership) (IA)</p> <p>HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-05: Advanced manufacturing technologies for leadership of EU manufacturers in products for the net-zero industry (Made in Europe Partnership) (IA)</p>

- Large Research University, active in many research activities on Manufacturing, Energy and Sustainability
- Past personal experience on EU projects:
 - H2020 FACTS4WORKERS
 - H2020 BeInCPPS
 - MANUNET - RetroFix
 - FP7 Intefix
 - FP7 Unplugged
- Many national project on WAAM, repairing, environmental footprint reduction, circular economy solution implementation

RETROFIX

Retrofit System for Repairing through Additive Manufacturing



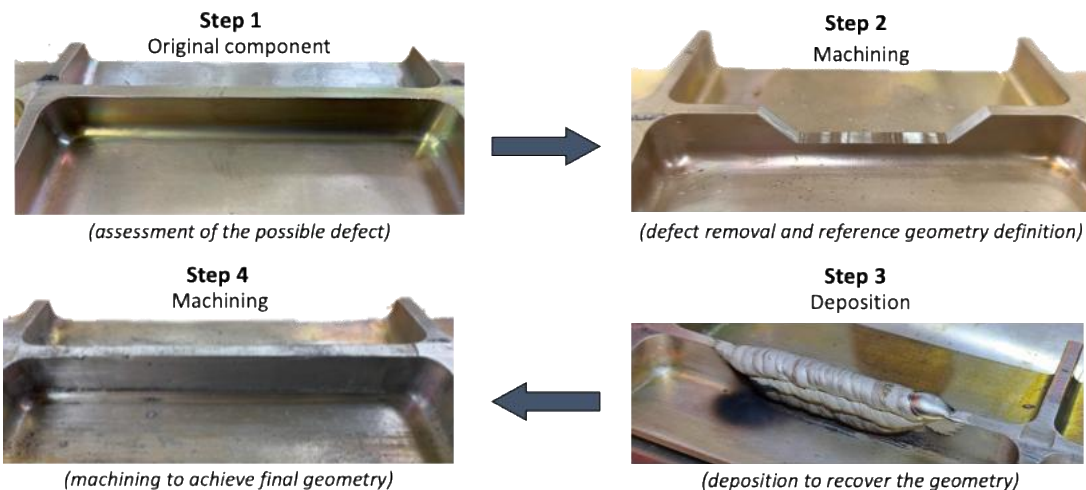
BE in CPPS



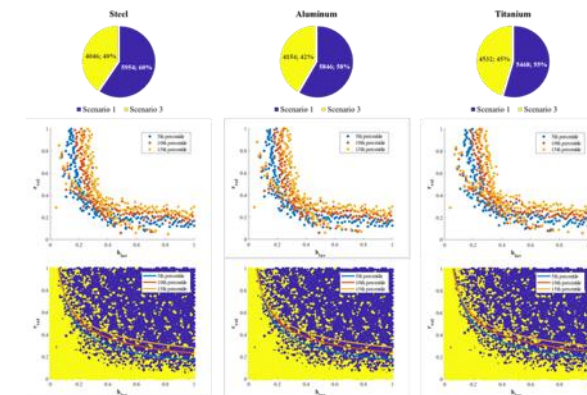
Advanced Metal Repair Solutions

- Provide a complete solution for repairing a metal component
- Analyze the product characteristics and quality
- Development of industrial case studies
- Holistic assessment of environmental performances (including supply chain)

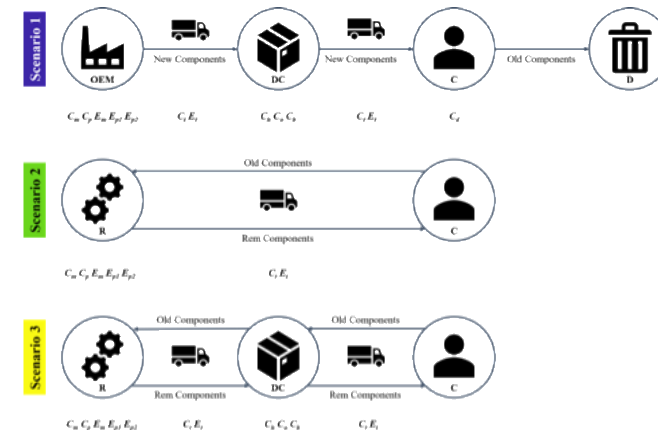
Technology



Economy feasibility



Scenario



Competences / type of partners sought

Competences on:

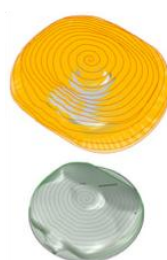
- Process parameters selection for repairing (WAAM technology)
- Robotic and hybrid (additive/subtractive) 5 axis machine
- Possibility to provide industrial case studies from automotive/aerospace/energy sectors
- Material characterization capabilities
- Strong expertise on titanium, nickel based alloys, aluminium, high alloy steel



Component to repair
(combustion chamber die)
in H13 tool steel



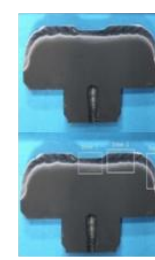
1. Study and
preparation
of the geometry to
be repaired



2. Generation of
deposition
toolpath to re-
coat the surface



3. Deposition of
material and finish
milling to obtain
the final result



4. Analysis of
results to verify
the properties of
the part



Contact details

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EU INDTECH 2025 Brokerage Event