

HEPHAESTUS

LMD-W ROBOTIC PLATFORM

"Hephaestus: Named after the Greek god of fire and metalworking"

TECHNOLOGY

Laser Metal Deposition - Wire

SYSTEM TYPE

Mobile Robotic Unit

ARM CONFIGURATION

6-Axis UR10 Collaborative Robot

AI INTEGRATION

Vision + Defect Detection

READINESS LEVEL

TRL 5 - Validated in Relevant Environment



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SYSTEM CAPABILITIES

Human - robot collaborative laser robotic system for industrial site operations

Metal Deposition

Wire-fed LMD-w process for additive repair and reinforcement of metallic components

Laser Surface Cleaning

Surface preparation via robotic laser cleaning prior to deposition or inspection

Rebar Welding

Automated welding of carbon steel rebars in reinforced concrete construction

AI Inspection

Computer vision-based defect detection and autonomous path planning

COMPATIBLE MATERIALS

CARBON STEEL

STAINLESS STEEL

NICKEL ALLOYS

TITANIUM ALLOYS

COBALT CHROME

ALUMINIUM ALLOYS

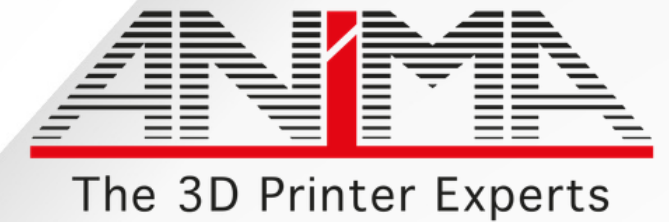
R&D AREAS OF INTEREST

ROBOTIC POST - PROCESSING

AUTOMATED WORKFLOWS

H2 STORAGE INTEGRATION

DIGITAL TWIN



This project has received funding from the European Union's Horizon Europe research and innovation program under grant agreement No 101058731.