

REMANUFACTURING, REPURPOSING AND RECYCLING ENERGY GOODS THROUGH AND DIGITAL TECHNOLOGIES

Porto Salvo, April 4th, 2024- The manufacturing industry is undergoing a transformative transition towards sustainability and circular value chains, with the start of the R3-MYDAS - REmanufacturing, repurposing and recycling energy goods through advanced Mechatronic and Digital technologies- project.

R3-MYDAS is a visionary initiative aimed at accelerating the transition of manufacturing industries to more sustainable and circular models. By integrating innovative digital technologies, advanced mechatronics, and insights from social sciences and humanities, R3- MYDAS is redefining the landscape of remanufacturing, repurposing, and recycling energy goods.

Key Objectives of R3-MYDAS:

At its core, R3-MYDAS is driven by a set of ambitious objectives. Firstly, the project is focused on developing a robust framework that seamlessly integrates advanced digital technologies, mechatronics, and social sciences and humanities insights. This framework is designed to foster functionally, environmentally, and economically sustainable circular value chains for remanufacturing energy goods at the industrial level.

Moreover, R3-MYDAS is grounded in practicality. The project aims to validate its approach through three study cases targeting oil and gas components, electric vehicle batteries, and wind turbine gearboxes. These cases will serve as real-world examples showcasing the efficacy and replicability of R3-MYDAS solutions.

Central to R3-MYDAS is the integration of cutting-edge technologies such as machine learning for process optimization, digital twins, additive manufacturing, and automated disassembly and reassembly to enhance the remanufacturing process. Furthermore, the project places a strong emphasis on stakeholder engagement, offering training programs and communication strategies tailored to technicians, engineers, managers, and other stakeholders involved in the manufacturing process.

Innovation strategy:

The project includes the development of the R3-MYDAS marketplace, a cloud-based platform aimed at facilitating interactions among stakeholders within circular value chains. In addition to standard marketplace functionalities, the R3-MYDAS project will enhance transparency and traceability within the remanufacturing process. Utilizing a Digital Product Passport (DPP) approach, stakeholders will have the capability to input and review the comprehensive manufacturing history of products. This innovative feature ensures the reliability and traceability of remanufactured goods, components, and services available for purchase or sale within the marketplace.

The R3-MYDAS project represents a collaborative effort towards a more sustainable future, where manufacturing processes align with environmental and societal needs. By pioneering innovative solutions and fostering stakeholder engagement, R3-MYDAS is paving the way for a circular economy that benefits both industry and the planet.

Partners



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