



SMART HUMAN-CENTRIC REMANUFACTURING

rEUMAN initiative launches to reinforce the competitiveness of the European industries through remanufacturing for circularity

Milano, October 2024



This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No. 101138930.



rEUMAN launches in Milan

Remanufacturing is an indispensable component on the European industrial landscape aiming to boost the competitiveness of the European industry. This can be made possible thanks to the deepening of the EU common market both at the B2B and B2C level and seize opportunities arising from circularity, supported by state-of-the-art digitalisation and AI. **rEUMAN**, an exciting initiative aimed at revolutionising the remanufacturing industry in Europe through the introduction of innovative digitalised approaches launched on the 1st and 2nd of October in Milan. rEUMAN partners have been developing solutions to demonstrate a novel paradigm of human-centred remanufacturing at a factory and value chain level to increase resource regeneration rates and optimal traceability of materials incurred in manufacturing, logistics and use.

A consortium coordinated by Politecnico di Milano, brings together 19 partners from academia, research and industry. The initiative funded by the European Union by a grant of 6.7 million euro has a four-year time span and will conclude in the end of August 2028.

rEUMAN aims and expected impacts

The initiative is set to transform the European remanufacturing industry by addressing its current limitations and setting new standards for human-centric innovation. It aims to develop and demonstrate a novel remanufacturing paradigm which is inherently safe for humans, target-driven in regeneration and certification, flexible in handling post-use parts variability, and robust for replication in new circular business cases. To achieve these objectives, rEUMAN partners will develop cutting-edge remanufacturing approaches and integrate them into the value chains. The initiative will demonstrate **functional resources retention in automotive, home appliances, and optoelectronics sector**. Additionally, it will introduce **traceability in remanufacturing** through the **first remanufacturing-centred Digital Product Passport (DPP)** and ensure operational and economic viability by presenting comprehensive business cases along with designed training materials for the future workers.

Opportunities and challenges of remanufacturing for the European industry

The European remanufacturing industry is vital **to make the green and sustainable transition work in favour of the increased competitiveness** due to its considerable savings in energy, materials, and functionality. Expected socio-economic benefits of rEUMAN are considerable. They include new job creation, skills development and innovation in technology maturation. However, to ensure a smooth integration of the European remanufacturing industry into the overall industrial landscape, it is crucial to address the challenges faced **by workers**. Today, established remanufacturing sectors still struggle with limited automation, poor human inclusion, lack of traceability, and restricted use of digitalisation.

rEUMAN aims to develop and demonstrate a novel human-centric remanufacturing approach for the European industry. Solutions will be implemented at both factory and value-chain levels. At the factory level, the primary goal is to ensure high regeneration rates of remanufactured products and to achieve full traceability of the remanufacturing process-chain. At the value-chain level, the focus is on ensuring stability in the volume and quality of post-use products.





“rEUMAN addresses all cutting-edge challenges of the remanufacturing industry in Europe today, emphasises **prof. Marcello Colledani of Il Politecnico di Milano, the coordinator of the consortium.**

“Within five **use cases, focusing on automotive, white goods and optoelectronics sectors**, all fundamental for the energy transition and part of the next-zero industry, we can demonstrate a number of factory and value chain level solutions which can be absorbed into the European industries in a relatively short period of time. They can represent a basis for novel business models focused on the recovery and re-use of product functions and materials which will innovate EU industries and contribute to closing the loops of resource flows in the local ecosystem. The role of the end-users cannot be emphasised enough. The valorisation of goods and services based on remanufactured products is invaluable for the uptake of novel solutions that rEUMAN proposes.”

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