



# 13-14 YDAS

## Newsletter 6



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## Identifying and Overcoming Skills Gaps within the R3-Mydas Industrial Remanufacturing Use Cases

As the manufacturing sector transitions toward greener and more digital practices, including adopting circular approaches such as remanufacturing, it is crucial to equip the workforce with the skills needed to implement and lead these changes. EIT Manufacturing is addressing this challenge by leading training and upskilling efforts in R3-Mydas, with the first phase, a detailed analysis of skills gaps among partners involved in remanufacturing pilots, which are now completed, with the findings outlined below.

Partners involved in the **oil and gas remanufacturing use case** reported key skills and knowledge gaps relevant to the advancement of automated laser-cladding workflows. These include understanding material properties (e.g., hardness, toughness, wear resistance), the impact of environmental factors (temperature, humidity, air quality) on material behavior, and proficiency in welding techniques. Laser safety also emerged as a critical competency for ensuring operational integrity. Also essential are capabilities in integrating hardware, software, and process knowledge, along with expertise in quality control to maintain consistent standards throughout the remanufacturing lifecycle.

The **EV battery remanufacturing demo case** highlights critical skills and knowledge needs spanning multiple but connected domains. A solid understanding of the full battery lifecycle—including design, disassembly, reassembly, State-of-Health (SoH) analysis, and integration with manufacturing execution systems (MES) and production planning tools—has emerged as essential for partners developing digital solutions to optimise the remanufacturing process. Equally important is expertise in advanced analytics, including machine learning and predictive maintenance, to support fault detection and process efficiency.

In parallel, strong competencies in ethical and legal aspects—particularly around AI governance, data handling and security, human-technology interaction—are critical to ensuring responsible, human-centric innovation and compliance within evolving regulatory frameworks.

The analysis conducted among partners involved in the **remanufacturing of wind turbine gearboxes** highlighted skill and knowledge requirements to support the exploration of innovative laser-based remanufacturing processes and methodologies. These include expertise in design for remanufacturing and additive manufacturing technologies, such as multi-material printing and laser-based methods. End-users of the pilot also reported a clear need for expertise in post-processing and surface treatment techniques, particularly

those related to hardening—to improve the durability, wear resistance, and overall performance of remanufactured components.

These insights will directly inform the design and development of innovative training courses targeting key strategic areas such as laser-based manufacturing, battery technology and data-driven diagnostics, additive manufacturing, safe and sustainable industrial practices, and responsible technology use, ensuring the future workforce is equipped to drive innovation in remanufacturing and circular value chains.