

Newsletter 12

Turning Innovation into Skills: The R3-MYDAS Training Portfolio

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Turning Innovation into Skills: The R3-MYDAS Training Portfolio

Upskilling and reskilling the workforce for a more circular manufacturing supply chain is a key ambition of R3-MYDAS. Building on the experience and outcomes of its three pilot cases, EIT Manufacturing South, in collaboration with partners, has designed and developed a set of training resources to help professionals, learners, and innovators strengthen their knowledge and competences in circular economy approaches and explore the innovative solutions introduced by R3-MYDAS.

Electric Vehicle Battery Fundamentals, Safety & Diagnostics

This 2-hour online course explores the technical foundations of EV batteries, lifecycle considerations, ageing processes, safety aspects, and diagnostic approaches used throughout the battery value chain. Designed and delivered in collaboration with **AVL**, the partner leading the R3-MYDAS EV Batteries pilot case, participants learn to:

- Understand key principles shaping EV battery performance, lifetime, and safety
- Recognise ageing mechanisms and operational risk factors
- Interpret battery health indicators (e.g. SOH, diagnostics) for decision-making
- Communicate effectively using core battery concepts and terminology

Circular Lifecycle & Second-Life Applications for Electric Vehicle Batteries

This course continues from the previous one and introduces the concepts, processes, and innovations that underpin the **circular management of electric vehicle (EV) batteries**. Developed in collaboration with **AVL** and **Deep Blue**, this course introduces key concepts of the circular economy, battery regulations and policies, and ethical considerations related to battery circularity. It then explores second-life screening approaches, examining how batteries are assessed at the end of their first life and how diagnostics, data analytics, and emerging digital technologies support safe and effective battery life extension.

Surface Technologies as a Solution to Meet Industrial Needs

As industries seek to improve component performance, extend equipment life, and reduce maintenance costs, surface engineering has become an increasingly important tool. Rather than replacing entire components when wear, corrosion, erosion, or high-temperature degradation occurs, companies can modify or protect the surface to achieve the required performance while

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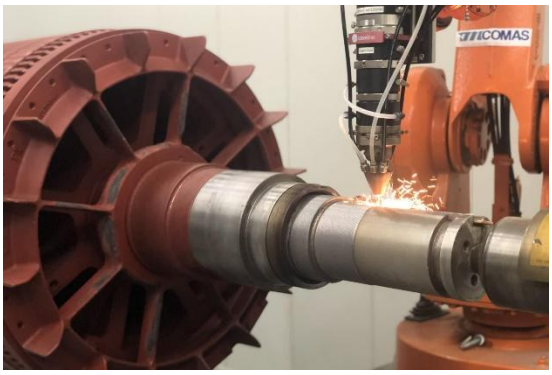
preserving the original component. Surface technologies therefore play a key role in **asset life extension**, **reliability improvement**, and **sustainable industrial practices**.

In this course, developed in collaboration with Demo Case 1 project partner **TMCOMAS**, learners explore a wide range of technologies designed to enhance surface properties through treatments such as **quenching** and **tempering**, **nitriding**, **case hardening**, **welding**, **laser cladding**, **thermal spraying**, **PVD**, **CVD**, and other coating processes, their capabilities and limitations, so that engineers and maintenance professionals select effective solutions for component repair, life extension, and performance enhancement in remanufacturing applications.

Laser Cladding: Characteristics and Industrial Applications



Laser cladding has emerged as a powerful technology for component restoration, surface enhancement, and functional upgrading across a wide range of industries. By depositing high-performance materials onto existing components with exceptional precision and minimal thermal impact, laser cladding enables the recovery of dimensions, repair of damaged surfaces, and enhancement of wear, corrosion, and high-temperature resistance.

This course, offered by **TMCOMAS**, provides a practical introduction to laser cladding, covering process fundamentals, materials, equipment, quality considerations, and industrial applications for component repair and performance enhancement.

Lifecycle Assessment and Circularity in Industry

Developed in collaboration with project partner **AIMEN**, this course provides a comprehensive introduction to Life Cycle Assessment (LCA) and its role in driving industrial sustainability and circular economy strategies. Life Cycle Assessment (LCA) is a methodology used to evaluate the environmental and socio-economic impacts of products and processes throughout their lifecycle. Within R3-MYDAS, this is performed with the three project demo cases.



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This 4-hour self-paced online course is suitable for stakeholders who are not LCA practitioners and is designed for industrial managers, engineers, and sustainability professionals who have no prior knowledge of Life Cycle Assessment (LCA).

Responsible AI in Manufacturing: Ethical, Legal, and Human Factor

Artificial intelligence is playing an increasingly important role in modern manufacturing, offering significant opportunities to improve efficiency, productivity, and decision-making. At the same time, its adoption raises important questions around ethics, regulation, data governance, and the impact on people and workplaces.

This course, designed and developed by **Deep Blue**, explores the key ethical, legal, and human dimensions of AI in manufacturing. Targeted at managers, decision-makers, and technical professionals, it provides practical insights into responsible AI adoption, covering topics such as regulatory compliance, trustworthy AI principles, data management, and workforce considerations. Participants will develop the knowledge needed to support the effective and human-centred integration of AI technologies, ensuring innovation is implemented in a responsible, compliant, and sustainable way.

Start Learning Today

Delivered as self-paced online courses, the R3-MYDAS training portfolio is designed to provide flexible learning opportunities for professionals, learners, and innovators across Europe. The courses combine expert video lectures, practical exercises, reflection activities, case studies, and quizzes to support knowledge retention and real-world application. Explore the full portfolio through the EIT Manufacturing South Education page and enrol free of charge.

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