



R3-MYDAS

Driving Circular Economy with Data-Driven Remanufacturing: The R3-Mydas Marketplace

October 2025

Authors:

Antonios Chasapas
Panagiotis Kourempas
Pantelis Lappas
Athanasios Poulakidas

Netcompany



Funded by the
European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency. Neither the European Union nor the granting authority can be held responsible for them. The document is the property of the R3-Mydas project and should not be distributed or reproduced without prior approval. Find us at www.R3-Mydas.eu.

Introduction

As industries embrace sustainability and circular economy principles, remanufacturing is emerging as a key strategy for reducing waste and extending product lifecycles. At Netcompany, we believe that digital platforms can accelerate this transformation. The R3-Mydas Marketplace enables stakeholders across industries to buy, sell, and collaborate on remanufactured products and services, fostering transparency, trust, and efficiency in the circular economy.

Background

Remanufacturing goes beyond simple repair or refurbishment. It restores end-of-life products to a like-new state through inspection, component replacement, and testing, all guided by data-driven decision-making. This approach ensures high quality, traceability, and repeatability across sectors such as oil & gas, electric vehicle batteries, and wind energy.

However, traditional remanufacturing chains often face challenges: fragmented processes, limited visibility, and difficulty tracking product history. The R3-Mydas Marketplace addresses these challenges through a **secure, modular digital architecture** that integrates Digital Product Passports (DPPs), blockchain for traceability, and controlled dataspace for sensitive data.

Supporting Arguments

- **Efficiency and Accessibility:** Buyers can quickly identify products or services tailored to their needs, while sellers gain exposure to a wider audience.
- **Trust and Traceability:** Each product carries a DPP that records its complete remanufacturing history. Key lifecycle events are secured on blockchain, while detailed technical data is stored in dataspace, balancing transparency and privacy.
- **Collaboration and Flexibility:** Stakeholders can act as buyers, sellers, or both, creating a dynamic ecosystem where resources are efficiently allocated.
- **User-Centric Architecture:** The marketplace uses modular components for asset registration, policy-controlled data sharing, and real-time transaction management. Buyers can search for products or services, inspect verified product histories, and engage in secure, transparent negotiations. Sellers can publish products or service offerings while ensuring compliance and traceability.

- Real-World Impact:** In oil & gas, automotive, and wind energy sectors, buyers monitor remanufacturing progress, verify quality, and finalize transactions digitally, supported by blockchain-anchored audit trails.

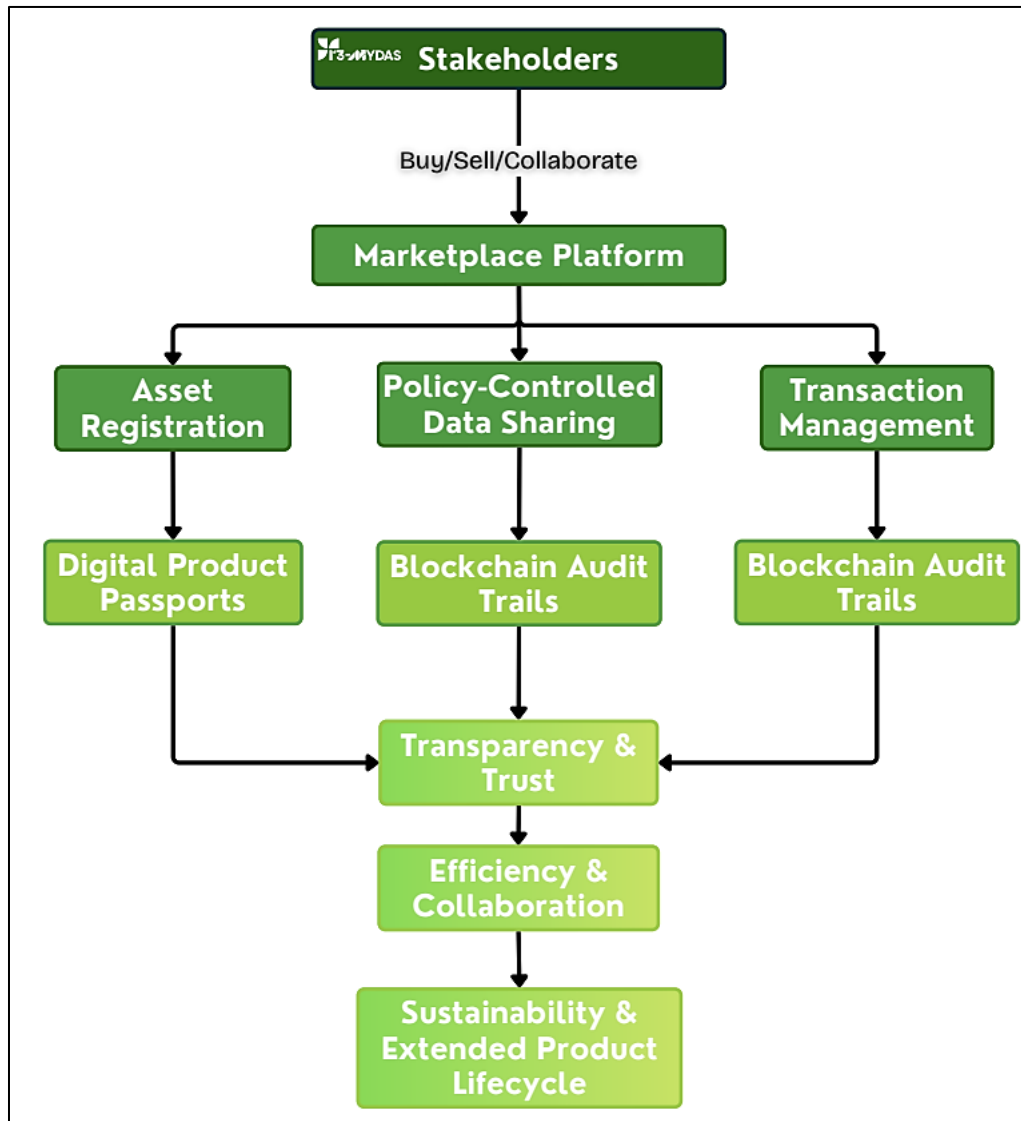


Figure 1: R3-Mydas Marketplace Ecosystem: Data-Driven Remanufacturing Workflow.

Counterarguments & Rebuttals

Some stakeholders worry that digital marketplaces can feel overly complex, sensitive data might be at risk and data provided are untrusted. R3-Mydas addresses these concerns through a combination of blockchain immutability and dataspace-controlled access. Sensitive information stays secure without compromising transparency. This approach not

only simplifies interactions but also turns what might seem like complexity into a strategic advantage for companies looking to optimize remanufacturing processes.

Conclusion

Digital marketplaces such as the R3-Mydas are transforming the way industries approach remanufacturing and the circular economy. Stakeholders gain clearer visibility into product histories, easier collaboration, and actionable insights through data-driven decisions. Companies using the platform can track quality, streamline operations, and uncover new business opportunities, all while advancing sustainability goals. Netcompany invites partners to explore the marketplace and actively participate in shaping a more sustainable industrial future.