

Newsletter 12

R3-MYDAS Marketplace: Connecting Remanufactured Products and Services through Trusted Digital Technologies

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R3-MYDAS Marketplace: Connecting Remanufactured Products and Services through Trusted Digital Technologies

Enabling circular industrial value chains through Digital Product Passports, secure data exchange and blockchain-based traceability.

The transition towards a circular economy requires more than advanced remanufacturing technologies. It also requires digital solutions that connect industrial stakeholders, facilitate access to remanufactured products and services, and establish trust in the information exchanged throughout the product lifecycle.

Within the European-funded R3-MYDAS project, a digital marketplace is being developed to address these challenges. Building upon the MARKET4.0 platform, the R3-MYDAS Marketplace brings together industrial buyers, remanufacturers and service providers in a shared digital environment, supporting both the commercialisation of remanufactured products and the management of remanufacturing services.

One Marketplace, Two Complementary Business Workflows

The R3-MYDAS Marketplace supports two interconnected workflows that address different needs within circular industrial value chains.

Remanufactured Products

The marketplace enables companies to publish, discover and express interest in remanufactured products. Product listings provide relevant technical information and are associated with Digital Product Passports (DPPs), allowing potential buyers to access structured information about product identification, technical characteristics, remanufacturing history and other relevant attributes.

This functionality is demonstrated through two industrial use cases:

- AVL: Remanufactured electric-vehicle batteries, focusing on the Jaguar I-PACE battery system.

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- FLENDER: Remanufactured wind-turbine gearboxes, including information on turbine compatibility, gearbox specifications, scope of delivery and warranty.

Remanufacturing Services

Beyond product trading, the marketplace supports the management of industrial remanufacturing services. Customers can discover service providers and submit Expressions of Interest (EoIs) describing their equipment, repair requirements and technical specifications.

Following assessment and agreement of the service scope, providers can configure remanufacturing activities, associate them with milestones and share progress updates and supporting documentation. Customers benefit from greater visibility into the service process, including inspection results, testing outcomes and completion status.

This functionality is demonstrated through:

- TMCOMAS: Repair and refurbishment of industrial components.
- FLENDER: Inspection, repair and refurbishment of wind-turbine gearboxes.

Trusted Data Exchange through Dataspace and Blockchain

A key innovation of the R3-MYDAS Marketplace is the integration of dataspace and blockchain technologies, providing complementary mechanisms for secure information exchange and data integrity verification.

Through the Sovity Eclipse Dataspace Connector (EDC), industrial data providers can create data offers, define access policies and exchange Digital Product Passports and remanufacturing information directly with authorised data consumers. This approach supports data sovereignty, allowing companies to retain control over their industrial information.

In parallel, Hyperledger Besu blockchain technology is used to verify the integrity of selected DPP properties and remanufacturing milestone outcomes through cryptographic hashes. This makes it possible to detect modifications to recorded information without storing complete product passports or sensitive industrial documentation on the blockchain.

Together, these technologies strengthen transparency and confidence in remanufactured products and services while respecting the need to protect commercially sensitive industrial data.

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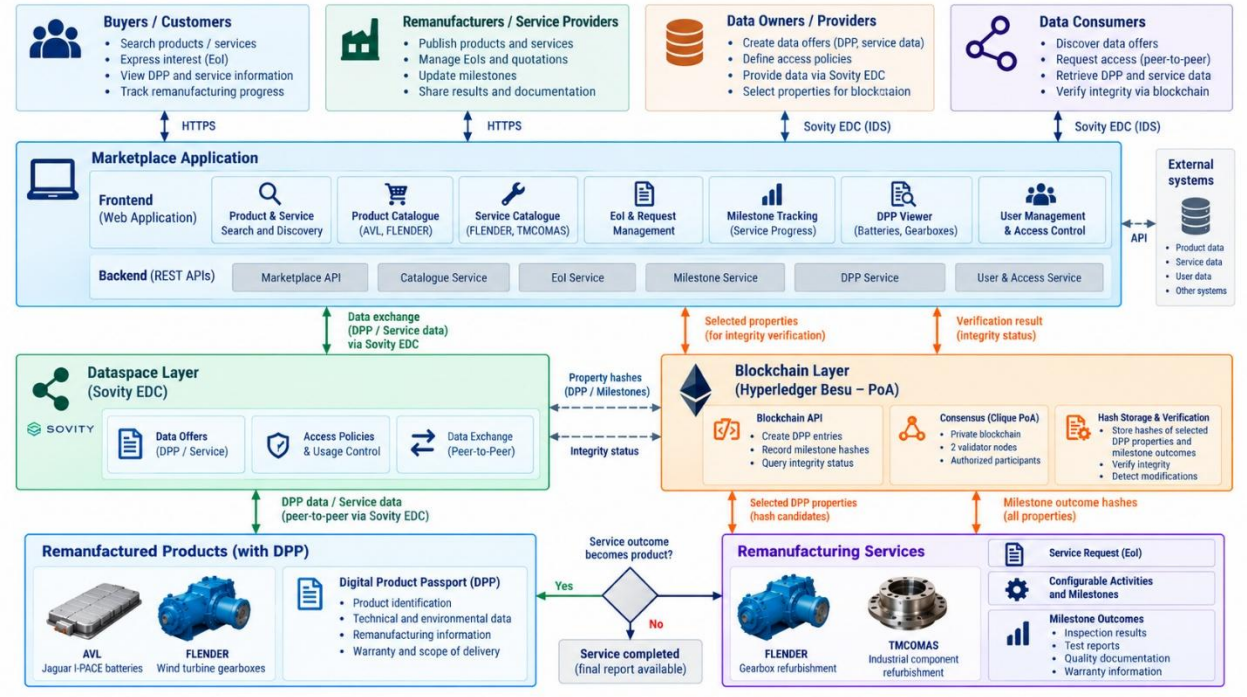

Figure 1. R3-MYDAS Marketplace architecture integrating remanufactured products, remanufacturing services, Digital Product Passports, Sovity EDC-based data exchange and blockchain-based integrity verification.

Supporting the Future of Circular Manufacturing

By combining product discovery, service coordination, Digital Product Passports and trusted information exchange, the R3-MYDAS Marketplace goes beyond a conventional online catalogue.

The platform aims to increase the visibility of remanufactured products and service providers, facilitate industrial collaboration and strengthen confidence in the quality and traceability of remanufacturing outcomes.

Through its industrial demonstration cases, R3-MYDAS is advancing a digital ecosystem in which remanufactured products and services can be more easily discovered, managed and exchanged—contributing to more transparent, resource-efficient and circular European industrial value chains.

Discover more about the R3-MYDAS project: www.r3-mydas.eu

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