



ROB4GREEN

Robotics and AI as Enablers for Greener Dismantling, Remanufacturing and Recycling

-ROB4GREEN-

Welcome to our 1st NEWSLETTER!

Welcome to the inaugural edition of the **ROB4GREEN** Newsletter! As we close our **first project period** and step into the second, this edition captures a journey that started with ambitious blueprints and has now produced real prototypes, a successful first Review Meeting, a fully executed Open Call, and 28 new innovation partners joining our ecosystem from across Europe.

You can expect to receive updates regularly, keeping you informed about project activities, technical milestones, events, and key results. We are excited to share this journey with you.

The ROB4GREEN Project Team

Our Vision

Mounting environmental concerns and the crisis of traditional linear manufacturing have highlighted the urgent need for sustainable, circular solutions. The EU-funded **ROB4GREEN** project is addressing this by bridging the gap between labour-intensive Re-X processing and automated circularity. By developing easy-to-use, collaborative, and AI-driven robotic systems, **ROB4GREEN** enables industries to embrace key “R-strategies” for processing products after their first life, in direct support of the European Green Deal.

Key Objectives of ROB4GREEN:

- 1 Cognitive and Intelligent Mechatronics:** Advanced perception and reasoning allowing robotic systems to understand product conditions and material compositions in real time.
- 2 AI-Based Robot Programming and HRI:** Modules enabling efficient interaction and continuous learning between robotic systems and human operators.
- 3 Multi-Level Optimisation:** An integrated architecture for AI-driven decision-making scaling from individual robotic cells to entire value chains.



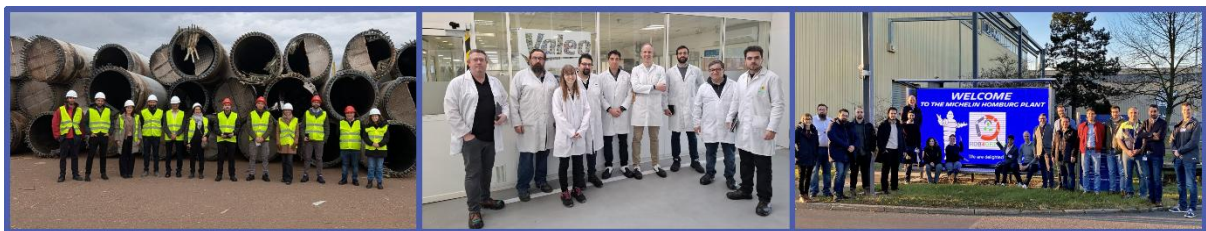


Industry-Driven Pilots: Shaping Circular Manufacturing Innovation

ROB4GREEN aims to address real-world industrial needs through three demanding pilot cases, each targeting a distinct end-of-life product scenario at the heart of the European circular economy:

- **Energy Infrastructure — Wind Turbine Blade Recycling (ACCIONA, Spain):** Developing robotic solutions for the decommissioning and recycling of large composite wind turbine blades.
- **Automotive — Tyre Retreading (MICHELIN, France):** Deploying AI and robotics to automate tyre inspection, sorting, and retreading operations.
- **Electronics — PCBA Component Harvesting (VALEO, France):** Applying AI-enabled robotic disassembly to recover and remanufacture high-value electronic components from end-of-life automotive circuit boards.

By working closely with industrial end users, the project captures essential process knowledge and environmental constraints, ensuring that **ROB4GREEN** technologies meet practical requirements for performance, sustainability, and safety.



Project Progress: A Solid Foundation for Circular Manufacturing

ROB4GREEN has successfully concluded its **first reporting period**, marking an important milestone in the project's implementation. The project's progress, technical achievements, and strategic direction were positively evaluated during the first Review Meeting with the European Commission, confirming that the project is advancing according to plan and meeting its objectives.

A key early milestone was the completion of the **ROB4GREEN Reference Architecture (D2.3)**, providing a solid, modular, and interoperable foundation for all development activities. The architecture leverages a suite of "Technology Blocks" including AI-driven perception, adaptive human–robot task scheduling, Smart Digital Twins with Digital Product Passports (DPP), and multi-modal AR/XR interfaces. Designed around open protocols, it enables external SMEs and developers to seamlessly connect their solutions to the **ROB4GREEN** ecosystem.

"The completion of this architecture is more than just a technical report; it is the blueprint for our entire ecosystem. It enables us to move from theory to the development of real-world prototypes that will handle complex materials like windmill blades, used tyres, and electronic scrap with unprecedented precision."



Highlight Events

Several representatives of **ROB4GREEN** EU Project took centre stage at several prestigious conferences and fairs, showcasing its cutting-edge contributions to

- ✓ **ADRA Future-Ready 2025** (18-19 February 2025) – Contribution to the session organized by the “Generative AI for Manufacturing” Group
- ✓ **European Robotics Forum 2025** (25-27 March 2025) – Contribution to the 12th Hybrid Production Systems Workshop, organized by LMS
- ✓ **EFFRA Manufacturing Partnership Days 2025** (20-22 October 2025) – Networking and knowledge exchange with project representatives, industry experts, and research stakeholders, supporting the communication of **ROB4GREEN** activities
- ✓ **European Big Data Value Forum 2025** (12-14 November 2025) – Contribution to discussions on AI and data-driven innovation and communication of the project to key stakeholders
- ✓ **HaDEA Showcase Event 2026** – Showcase **ROB4GREEN** progress, and connect with stakeholders shaping the future of remanufacturing, recycling, and sustainable manufacturing in Europe
- ✓ **European Robotics Forum 2026** (23-27 March 2026) – Contribution to the 13th Hybrid Production Systems Workshop, organized by LMS
- ✓ **Digital Transformation Summit 2026** (15 April 2026) – Showcase how **ROB4GREEN** contributes to a greener and more resilient industrial future
- ✓ **ADRA Future Ready 2026** (16 April 2026) – Identification of synergies across projects, strengthened networking among researchers, industry partners, and policymakers
- ✓ **Automation & Robotics Expo 2026** (25-27 April 2026) – Connect with industry professionals, researchers, and technology providers, strengthening **ROB4GREEN's** visibility





Open Call #1: Expanding Impact Beyond the Consortium

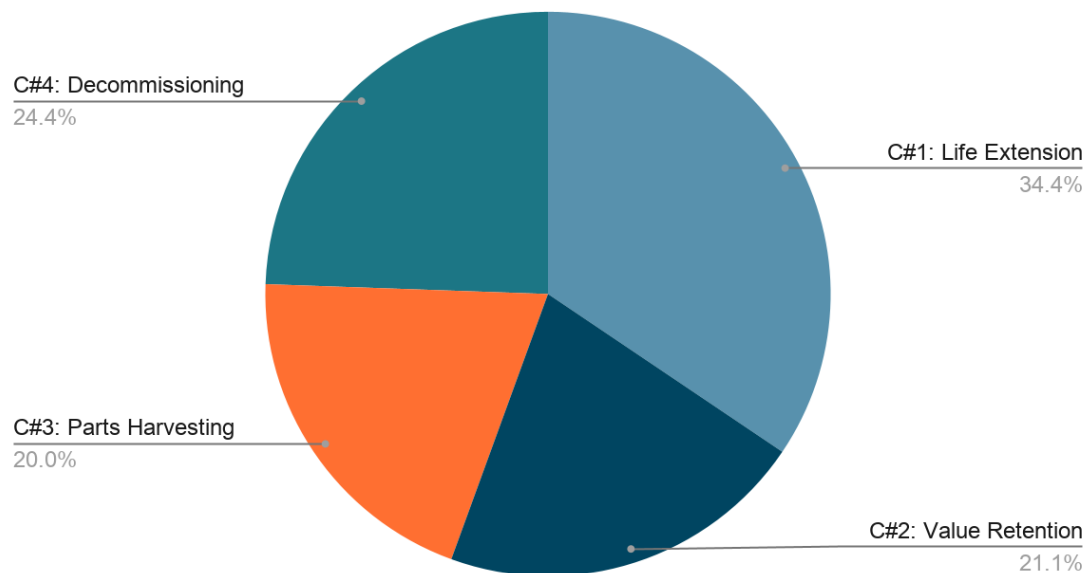
To extend its impact and accelerate innovation across sectors, **ROB4GREEN** launched **Open Call #1 (OC #1)** allocating **€2.4 million** in cascade funding to support innovative external pilots advancing AI, data, and robotics for circular economy applications. The call generated exceptional European-wide interest.

90	4	8
Total submissions from 30+ countries	Evaluation Phases by 10 selected external experts	Projects selected two per challenge topic

Open Call Topics:

 CHALLENGE #1 — Life Extension AI-driven inspection, diagnostics and repair to extend product lifetime	 CHALLENGE #3 — Parts Harvesting AI-enabled robotic dismantling and recovery of high-value components
 CHALLENGE #2 — Value Retention Refurbishment, remanufacturing and repurposing of industrial-scale systems	 CHALLENGE #4 — Decommissioning & Recycling Robotic, AI-driven safe decommissioning and material recovery

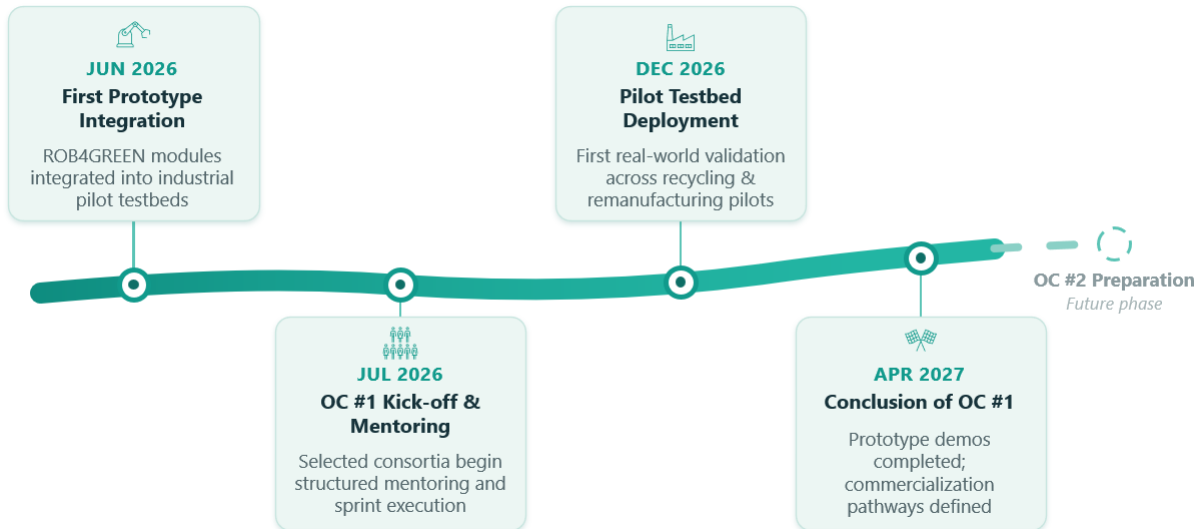
Selected consortia benefit from financial support of up to **€300,000 per project**, access to pilot infrastructure and **ROB4GREEN** toolkits, mentoring and technical assistance, and integration opportunities with the **ROB4GREEN** AI robotics framework.





What's Next?

With the architecture finalised and OC #1 projects entering the contracting phase, the consortium is now moving into the most technically intensive phase of **ROB4GREEN**. The roadmap below sets out the key milestones for the months ahead.



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