

RECLAIM Project Launches AI-Powered, Portable Robotic Waste Recovery Solution

March 6, 2025



The RECLAIM project has announced the successful development and initial deployment of a revolutionary, low-cost, portable, and AI-driven robotic materials recovery plant. This innovative solution addresses the challenges of waste management in remote areas and locations experiencing temporary surges in waste generation, such as the Greek Islands where the technology is currently being deployed.

The RECLAIM system leverages advanced robotics and AI-powered computer vision to efficiently sort and process diverse waste streams. Multiple robots equipped with specialized pickers work in tandem, guided by AI that accurately identifies waste composition, maximizing sorting effectiveness. The entire system is housed within a transportable container, enabling rapid and flexible deployment to any location.

This technology facilitates decentralized waste recovery, promoting a circular economy for plastics by processing materials close to their source. AIMPLAS, the Plastics Technology Institute, played a crucial role in the plant's development, ensuring operational requirements were met, evaluating technological options, and leading the monitoring of key performance indicators (KPIs).

"Remote islands, rural areas, and regions with limited infrastructure are prime candidates for this technology," stated Javier Grau, AIMPLAS Mechanical Recycling researcher. "Furthermore, it provides an ideal solution for large-scale events and complements existing recycling plants in tourist areas experiencing seasonal population fluctuations."

The portable equipment's compact design allows for rapid deployment in diverse settings, including port areas for marine waste management and existing sorting plants for processing emerging materials like bioplastics.

Funded by the EU Horizon 2020 programme, the RECLAIM project consortium, led by FORTH – Foundation

for Research and Technology – Hellas, comprises a diverse group of research institutions, universities, industry partners, and associations from across Europe. The project aims to revolutionize waste management through innovative, localized solutions.