



PRESS RELEASE

The future of decentralised material recovery is here! The [latest video](#) of the RECLAIM project unveils the innovative AI-driven, low-cost, portable, robotic material recovery facility (prMRF) for remote areas. Breaking new ground, AI-powered robotic waste management technology has been seamlessly embedded in a "portable, robotic MRF", setting a benchmark in decentralised material recovery activities for a Circular Economy.

Rotterdam, 10 January 2025:

Europe, under the framework of the European Green Deal, aims to become the first climate-neutral continent by 2050. To achieve this ambition, the European Union (EU) has set a 2025 target to prepare at least 55% of municipal waste and 65% of packaging waste for reuse or recycling. But, 10 member states, including Greece, are presently not on track to meet both these targets.¹ Addressing these ambitious targets requires authorities to consider all waste sources and plug leakages from the traditional centralised waste sorting systems.

With this challenge in mind, European Union-funded project RECLAIM delivers a cost-effective solution: an Artificial Intelligence-powered, easy-to-install portable robotic material recovery facility (prMRF) designed for easy deployment anywhere. The prMRF focuses specifically on European Islands and remote tourist destinations, offering fully automated material recovery operations. For the first time, AI-powered robotic waste management technology has been seamlessly integrated in a "portable robotic MRF", setting a new global standard in decentralised material recovery.



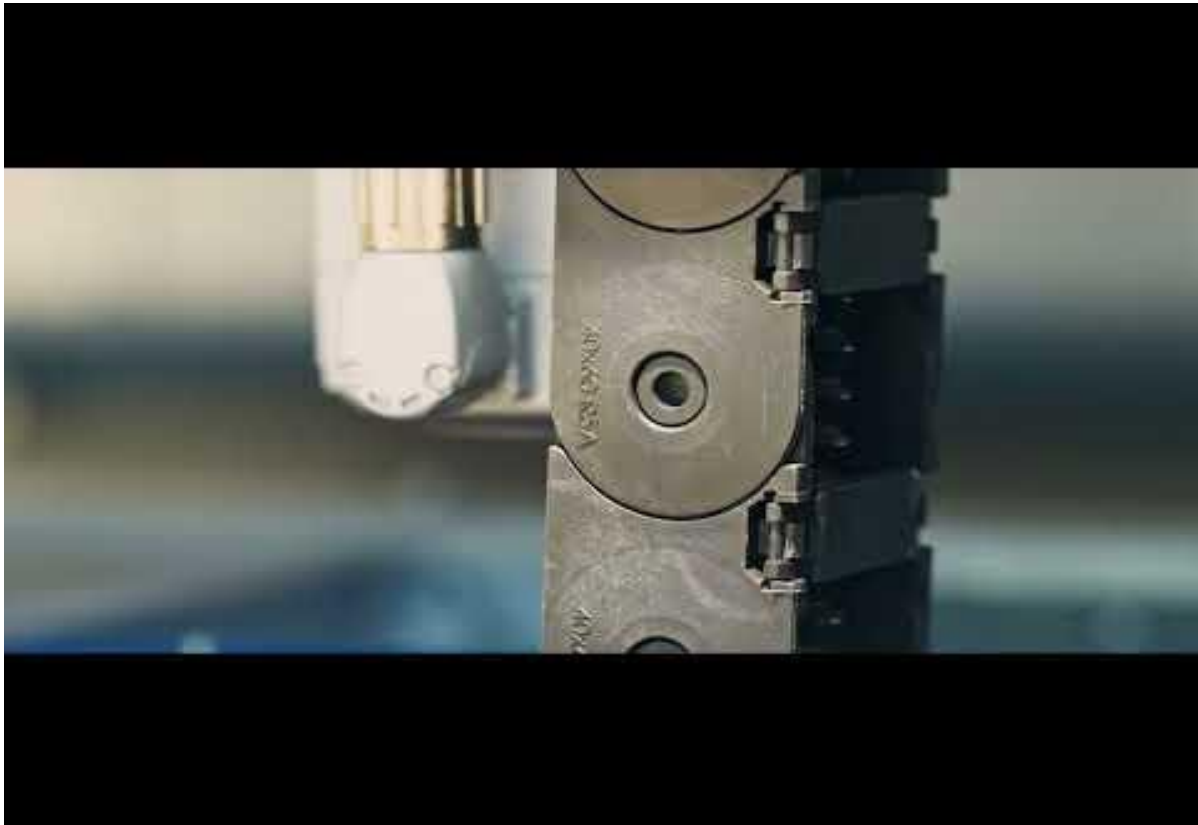
The RECLAIM solution uses multiple robots with modular grippers to efficiently pick and handle different types of waste, depending on their composition. Additionally, AI-driven computer vision can accurately identify waste, allowing robots to maximise sorting effectiveness. Packed inside a portable container, these innovations will significantly enhance local-scale material recovery activities with industrial-level efficiency for a Circular Economy in European islands and remote tourist areas.

¹ [Many EU Member States not on track to meet recycling targets for municipal waste and packaging waste — European Environment Agency](#)





To showcase its potential, RECLAIM has released a [video](#) of its fully operational prMRF sorting and separating waste materials in real-time.



The prMRF will initially be deployed in the Greek Islands. Every summer, excess waste generated by tourism must be transported for treatment to centralised material recovery facilities in the mainland, which is costly and inefficient. The prMRF addresses this issue with its portable solution deployable in any location, facilitating close-to-source material recovery, and increasing recycling opportunities to promote a circular economy for plastics.

Michalis Maniadakis, Senior Researcher at FORTH and Coordinator for RECLAIM, says, *"The low-cost, portable, robotic material recovery facility (prMRF) is now running long tests daily for hours without human intervention (remote monitoring using web cameras) and producing significant and tangible waste sorting results. With ongoing optimisations, these achievements are set to become even more remarkable in the months ahead."*

Crucially, the RECLAIM solution is poised to play a vital role in progressively addressing the EU's waste targets of reusing and recycling, of at least 55% of municipal waste by 2025, 60% by 2030 and 65% by 2035, to accelerate the transition towards a circular economy and ultimately help make Europe a climate-neutral continent by 2050.

To know more about the project, visit our website: [RECLAIM - AI-powered Robotic Material Recovery in a Box](#)



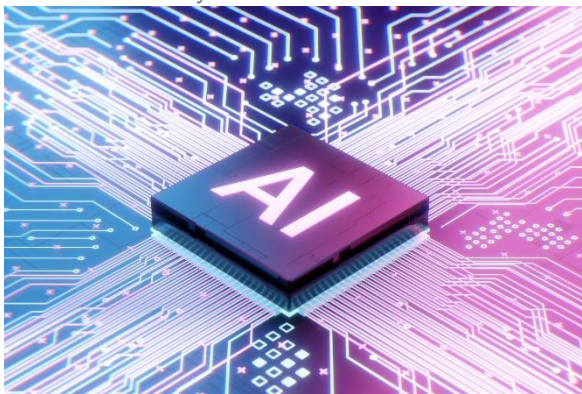
The RECLAIM Project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No: 101070524

RECLAIM

About the project

The project consortium is funded by the EU Horizon 2020 program and consists of three research and technology organisations, two universities, one Regional Authority, one Producer Responsibility Organisation, one Robotics company, one Innovation Management company and one International Association; the members of the consortium, led by FORTH – Foundation for Research and Technology – Hellas (Greece) include: Aimplas – Plastics Technology Centre (Spain), Axia Innovation (Germany), ION (Greece), IRIS (Spain), HRRC – Hellenic Recovery Recycling Corporation (Greece), KU Leuven (Belgium), Robenso – Robotic Environmental Solutions (Greece), ISWA - International Solid Waste Association (Netherlands) and UoM - L-Universita ta' Malta (Malta).

Servicing remote areas -or where waste generation spikes temporarily- makes it difficult to justify the development of large- scale infrastructure. For this, we need to develop decentralised solutions for waste processing and material recovery.

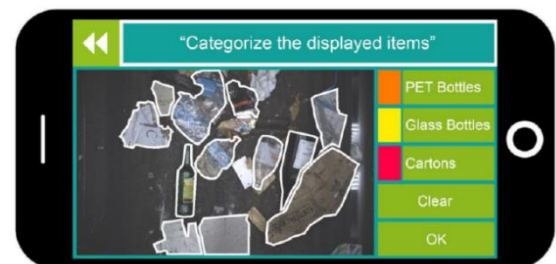
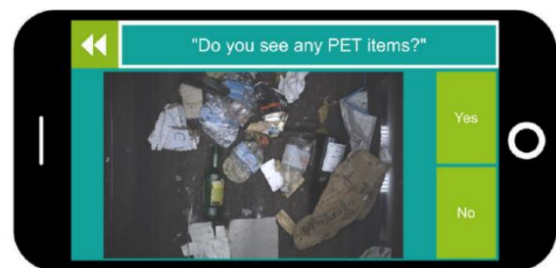


This is a three-year project, which aims to integrate advanced technologies to enable a circular economy.

RECLAIM will develop a novel compact mobile MRF. This will combine established recycling processing mechanical equipment and AI-powered robotic sorters in a container box which can be easily transported where needed and be ready for operation within a few hours. The MRF

enables the efficient recovery of recyclable materials with a minimal number of recycling workers and remains functional and sustainable for several years after the project ends. The system will be demonstrated and validated in real-life scenarios in the Greek Ionian Islands.

Additionally, RECLAIM expects to increase social awareness for recycling via a novel Recycling Data-Game (RDG) that highlights the related challenges and encourages citizens to participate in project activities through a citizen science approach for providing data to AI-ILC (Identification, Localisation and Categorisation) training.



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About FORTH

Foundation for Research and Technology - Hellas was founded in 1983 and is one of the largest research centres in Greece. FORTH conducts specialized scientific research in strategic high-added value sectors, focusing on interdisciplinary research and development (R&D) activities in areas of major scientific, societal, and economic interest. <https://www.forth.gr/>

About AIMPLAS

AIMPLAS is a technology centre based in Spain with 30 years of experience in the plastics industry. <https://www.aimplas.net/>

About AXIA

Axia Innovation is a German company that has broad experience in consultancy services on project management, innovation management, technology transfer and communication & design. Axia offers an integrated and comprehensive approach to respond to customer's needs through the most effective way, from strategic thinking to project implementation. <https://www.axia-innovation.com/en/>

About HRRC

The Hellenic Recovery Recycling Corporation has extensive expertise in industrial material recovery. It will undertake a major part of prMRF implementation costs and will contribute to the synthesis, implementation, and on-site assessment of the prMRF. <https://www.herrco.gr/en/about-us/>

About ION

ION is the local authority responsible for waste management in Ionian Islands, Greece. <https://diktiofodsa.gr/>

About IRIS

Iris is a Spanish leading company in the manufacture of photonic and artificial intelligence solutions for the control of industrial and production processes in real time. <https://www.iris-eng.com/about-iris/>

About KUL

The Catholic University of Leuven, Belgium, participates in the project with their specialized department on industrial robotic systems with a focused expertise on gripping mechanisms. <https://www.kuleuven.be/kuleuven>

About RBNS

Robenso is a new Greek start up specialized in material recovery robotics. They develop intelligent, autonomous robots capable of identifying, categorizing and physically sorting recyclables into separate bins according to their type of material. <https://www.robenso.eu/>

About ISWA – International Solid Waste Association

ISWA is the world's leading network promoting professional and sustainable waste and resource management. www.iswa.org

About UoM

University of Malta is a public higher education institution in Malta. The university carries out academic research and is very experienced in scientific AI-driven tools for game design and development. <https://www.um.edu.mt/>

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