

December 2022 | 1st Press Release

**RECONMATIC – a four-year Research and Development project to develop automated solutions for sustainable and circular construction and demolition waste management.**

**RECONMATIC** is a European research and innovation project in the domain of the Construction and Demolition Waste (CDW) management, focused on integrated decision making that would allow considering all aspects of CDW generation and involving all stakeholders within the construction industry in the whole life-cycle.

Thus, RECONMATIC stands for **Automated solutions for sustainable and circular construction and demolition waste management**. The project has received recognition and funding from the European Commission and the Ministry of Research and Innovations, United Kingdom under the topic HORIZON-CL4-2021-TWIN-TRANSITION-01-11: Automated tools for the valorisation of construction waste (RIA).



The project proposes a suite of innovative tools, solutions and techniques to build bridges through "bottom-up" construction and demolition waste prevention or avoidance, management and handling to reach "top-down" European waste reduction goals. During the 4 years of the project implementation, the current practices in CDW management, from prevention and minimization of waste to its reuse, will be evaluated and further developed to support the supply chains while circular economies will be identified. The aim is to develop, test and demonstrate a digital information management system for stakeholders' collaboration and waste traceability. It is envisaged that the CDW minimization will be achieved by empowering BIM and integrating waste management relevant data into the

information models. Processes of converting different formats of construction information to the digital twins will be automated, as well as the decision-making system for repurposing, deconstruction and demolition. The project will employ automation for AI-assisted CDW classification and robotic segregation off-site. The methodology for CDW logistics with respect to the automatic and more efficient CDW sorting and distribution will be proposed, along with methodologies to provide new added-value uses to CDW seeking for higher valorization.

The consortium involves 7 research institutions, 10 small to medium enterprises, 5 large companies and 1 association, representing 5 EU countries, the UK and China. The feasibility and efficiency of the developed solutions will be evaluated using 6 demonstrators. This consortium composition will enable the project to tackle the whole life-cycle CDW management, propose beyond-state-of-the-art technologies, and contribute to reaching a zero-waste construction industry in Europe in the near future.

The RECONMATIC project partners are:

- [Czech Technical University in Prague](#) (Project coordination, Automated off-site CDW management and treatment, Digital twins, Valorization of waste materials and new material solutions, Sustainability assessment, Education)
- [Tecnalia Research & Innovation Foundation](#) (Robotics, valorisation routes development, CDW specialists, assessment and certification through ETA)
- [Future Needs Management Consulting](#) (Dissemination for exploitation and education)
- [ENVISAN-GEM](#) (Waste disposal, recycling and logistics)
- [University of Thessaly](#) (Blockchain, IoT and AI Specialist)
- [ANAKEM](#) - Panhellenic ECD Waste Recycling System (Waste management, Evaluation of new recycling solutions, Development of automated tools)
- [STRABAG a.s.](#) (Waste disposal and reuse, Recycling solutions, Sustainability, BIM, Demonstrator organisation in the Czech Republic)
- [Aristotle University of Thessaloniki](#) (Technology-assisted CDW minimisation and mitigation in design & construction phase, Demonstrator and events organisation in Greece)
- [ICATALIST](#) (Sustainability & Circularity assessment, Drone/UAVs applications, Taxonomy)
- [Italferr Spa](#) (Rail sector, BIM, Sustainability, Demonstrator organization in Italy)
- [AEICE-Cluster de Habitat Eficiente](#) (Current CWD management practices and perspectives for new products)
- [Ergodomi S.A.](#) (Consulting, Waste recycling in construction projects)
- [Skyrodema Verias](#) (Waste management and recovery of new materials; Concrete - aggregates)
- [JAIP - South Bohemian Agency for Support to Innovation](#) (Education, training and learning materials)
- [The Institute of Ceramic Technology \(ITC-AICE\)](#) (Development of new construction products containing waste, Sustainability & circularity assessment)
- [RECISO](#) - RECICLADOS SOSTENIBLES (Management of CDW and recovery of new products - mainly aggregates, Demonstrator organization in Spain)

- [China Association of Circular Economy](#) (Dissemination & exploitation in the Chinese market, Coordination between Chinese partners)
- [EITRI](#) (High dynamic sorting robot cell development, Dissemination, and project outcomes promotion in the Chinese market)
- [Lecycle](#) (Facilitation of international collaboration between China, UK and the EU in the built environment industry )
- [Morgan Sindall Construction](#) (Digital tools development to predict lifecycle construction waste, BIM in real construction, Demonstrator organization in the UK)
- [BIMBox](#) (BIM service specialist and consultants in digital construction)
- [The University of Manchester](#) (Automation of the process of generating BIM models for end of service life buildings)
- [The University of Salford](#) (Current CWD management practices, BIM, Robotics and CDW management specialists)

The RECONMATIC project started on the 1st of July 2022 and the kick-off meeting took place on the 8th and 9th of September 2022, in Prague. Over the following months project news, publications and outputs will be available on the official project webpage at [www.reconmatic.eu](http://www.reconmatic.eu) and distributed via the project social media channels on [LinkedIn](#) and Twitter [@reconmatic](#).

*The RECONMATIC project has been funded by the European Union under Grant Agreement No. 101058580 and by the UK Research and Innovation as part of the UK Guarantee programme for UK Horizon Europe participation. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the HORIZON-RIA. Neither the European Union nor the granting authority can be held responsible for them.*



