

**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, 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](#) (Coordinator)
- [The University of Salford](#) (BIM, Robotics and CDW management specialists)
- [Tecnalia Research & Innovation Foundation](#)
- EITRI
- [Future Needs Management Consulting](#) (Dissemination for Exploitation and Education)
- [The University of Manchester](#)
- [ENVISAN-GEM](#)
- [University of Thessaly](#) (Blockchain, IoT and AI Specialist)
- [ANAKEM](#) (existing practices, evaluation of proposed solution, dissemination & exploitation)
- [STRABAG](#)
- [Aristotle University of Thessaloniki](#) (Current practices, Demonstration, dissemination & exploitation)
- [Italferr Spa](#)

- [AEICE](#) (current CWD management practices and perspectives for new products)
- [Ergodomi Avete](#)
- [Skyrodema Verias](#)
- [JAIP](#) (education, training and learning materials)
- [The Institute of Ceramic Technology \(ITC-AICE\)](#)
- [Lecycle](#)
- [RECSO](#)
- [BIMBox Associates](#) (BIM Service Specialist, consultants in digital construction)
- [Morgan Sindall Construction](#)
- China Association of Circular Economy

The RECONMATIC project started on the 1st of July 2022 and the kick-off meeting took place on the 8<sup>th</sup> 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](#) .



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