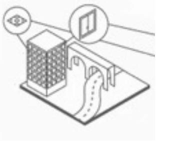
PROYECTO I+D+i

Project title

Industrial research project for the conceptualization, development and prototyping of a technological system to make the reuse of construction materials and products viable through the use of disruptive Industry 4.0 technologies

Acrónym

Building Legacy



Project content

Industrial research project that aims to generate evidence for the design, development and prototyping of a technological system that effectively and efficiently allows for extending the useful life of products for the construction sector, ensuring their traceability and transparency throughout the entire life cycle supported by the implementation of disruptive technologies of Industry 4.0. A digital platform architecture will be defined to be developed as a prototype solution, which will include the services and software components necessary for its operation. The platform will be hosted on a server, including as main software components a database, a system for its management and processing, including functions based on artificial intelligence, and a set of interfaces to facilitate interaction with each type of user, providing connection for capturing data on materials and construction components with BIM design environments (Revit). BUILDING LEGACY's industrial research is framed within the intersection of the design and habitat sectors, as well as construction materials and components, as a framework for action by the two participating AEIs.

General objectives

Generate the necessary knowledge to be able to design a flow of experience that makes the reuse of construction components possible. This will include all the stages and agents involved in the life cycle of a construction project, taking into account its needs, barriers and levers of action. In addition, a platform based on the model will be prototyped at a functional level, covering the functionalities of digitization and characterization of architectural components, as well as the capture in a real construction environment or selective deconstruction.

Conclusions

Building Legacy demonstrates how digitalization serves as a key driver for material circularity in construction by enabling traceability, reuse, and environmental valorization. Through a robust, user-centered platform, it lays the groundwork for a more efficient and sustainable secondary market. While further improvements are needed for commercial scalability, its strategic and methodological approach represents a significant step toward a truly circular economy in the sector. As such, it stands out as an innovative solution with potential for both environental and economic impact

<u>BUSINESS AREAS</u>
Área técnica de Innovación I+D+i COMSA

<u>PROJECT DURATION</u>
1/9/2024 a 30/6/2025

<u>BUDGET</u>
TOTAL: 229.412,00 €

<u>KEYWORDS</u>
Recycling, construction materials, digitalization, circular economy.

<u>COORDINATOR</u>
Miquel Morata (COMSA)

<u>IN COLLABORATION WITH</u>
BCD, Clúster MAV, Funitec, Inèdit, Intemic.

<u>GRANT NUMBER</u>
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