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VALREC PROJECT LAUNCHED TO PROMOTE THE CIRCULAR ECONOMY IN CONSTRUCTION AND DEMOLITION WASTE (CDW)

- **This initiative is led by Surge Ambiental and Valoriza (Sacyr Group), together with seven other companies in the Community of Madrid.**
- **It will prevent the dumping of up to 2 million tons of CDW per year and will reduce the carbon footprint of companies by 20%.**
- **VALREC is part of the "Open Innovation Business Hubs", co-financed by the Community of Madrid and the European Regional Development Fund.**

Madrid, January 25, 2022.- Surge Ambiental and Valoriza (Sacyr Group) lead the VALREC project together with seven other companies in the Community of Madrid. This project was created to develop **innovative solutions to increase the circularity, traceability and purity of mineral resources present in Construction and Demolition Waste (CDW), and thus make an eco-efficient manufacture of new construction materials**. The project will run for two years, and the budget amounts to more than €5 million.

This project also involves **ALLGAIER MOGENSEN, ADCORE, SIKA, SODIRA, HORMICRUZ, KOLOKIUM and GBCe (Green Building Council España)** and is supported by the research and technological development center **TECNALIA**, from **Instituto Eduardo Torroja de Ciencias de la Construcción IETcc** and **Universidad Autónoma de Madrid (UAM)**.

VALREC is a subsidized project under the 2020 call for grants to contribute to the improvement of public-private cooperation for R&D on tractor projects developed by Open Innovation Nuclei (Innovation Hubs) within the Regional Research Strategy for Smart Specialization (RIS3) involving strategic areas for the Madrid economy. It is also co-financed by the European Regional Development Fund (ERDF) of the ERDF Operational Program of the Community of Madrid for the 2014-2020 period.

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The project intends to create **economic, environmental and social impacts, some of which are**:

1) to **increase the circularity of mineral resources by approximately 30%** towards higher value-added construction products by 2025, **preventing the dumping of up to 2 million tons of CDW per year**;
2) to **reduce the carbon footprint around the participating companies by approximately 20%** compared to the baseline situation;
3) the **creation of employment** by the companies and the collaborating organizations (TECNALIA, IETCC and UAM) for the dissemination and generation of knowledge **to develop this project**;
4) the economic impact on companies would reach €17.2 million per year from the application of the results after making a **private investment of approximately €2 million**.
5) to train professionals and generate knowledge among construction and equipment recovery companies around digital and green technologies.

Efficient and sustainable solutions

The different solutions that VALREC will provide stem from a **holistic approach**, adapted to the local scenario of the Community of Madrid, and that addresses the overcoming of different technological and market obstacles. In doing so, it seeks to ensure the **closure of cycles in construction materials and products** through efficient recovery and the use of **new digital traceability technologies** that take **circular economy and resource and energy efficiency criteria** into account.

The **solutions** researched in the framework of this project will relate to:
1) selective demolition and traceability of quality through the digitization of information;
2) use of novel technologies for **obtaining recycled raw materials of higher purity and improved qualities**;
3) incorporation of a higher percentage (with a target of up to 95% of the weight) **of recycled raw materials in new products with increased performances for the construction sector;**

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4) demonstration and validation of the eco-designed solutions, as well as new digital solutions that allow for **more detailed information along the value chain.**

5) analyzing and studying the results obtained from a **technical, commercial and environmental** point of view as well as **the application of results and proposing new business models derived from the project.**

Challenges of the sector

VALREC was created with the goal of managing this type of waste in a more sustainable way, aligning itself with the **main challenges of the construction sector to achieve greater efficiency of material resources and sustainability**, with a focus on intelligent cycle closure:

- **Circular economy "Spain Circular 2030"**: providing greater efficiency and cycle closure in the use of material resources.
- **Climate change "European Green Pact**": promoting the development of alternative technologies, materials and construction products that substantially reduce greenhouse gas emissions in their extraction, manufacturing, transportation, commissioning and service stages.
- **Digitalization of the sector "Digital Spain 2025"**: improving digital information about materials throughout the life cycle and supply chain.

Between 5 and 7 million tons of Construction and Demolition Waste (CDW) **are generated in the Community of Madrid per year**; close to 36 million tons in Spain; and 461 mt in Europe. Of the total CDW, approximately 30% is recycled for low added value uses and it is estimated that 30% of the CDW **is disposed of in inert waste landfills without being treated** and **40% is disposed of in an uncontrolled manner** in spoil heaps and uncontrolled natural spaces.

Fomento de la VALorización y uso de RCD bajo criterios de Economía Circular en la CAM

Comunidad de Madrid

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**Instituto Nacional de Estadística

*** European Commission-DG ENV “Management of Construction and Demolition Waste in EU27”

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https://www.sacyrservicios.com/medioambiente

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GBCe green building council españa

www.gbce.es

Kolokium Blockchain Technologies

http://www.kolokium.es/

ALLGAIER | MOGENSEN

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CSIC
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