

Innovative Virtual Reality tool to engage users in urban regeneration

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IREC and the [Palma de Mallorca city council](#) have collaborated with [DUAL MULTIMEDIA](#), a company specialized in 3D Rendering, Virtual Reality and interactive environments programming, to **develop a new and innovative virtual reality (VR) tool** to facilitate the visualization of regenerative actions in Palma de Mallorca as part of the ARV project.



To enhance understanding and visualization of the promoted changes in the neighbourhood, IREC has worked together with DUAL MULTIMEDIA to develop a new concept of VR tool. This innovative tool will allow users to be aware of and visualize the various actions planned with the objective to engage them in the transformation process of the district. For some actions, users can even take an interactive tour or customize specific features to fit their preferences. Two versions of the tool have been developed, tailored to run both in personal computers (PC) and VR glasses, and will be tested in the following months on the field. For an overview of the tool's features and functionalities, you can watch [this video](#).

Additionally, we have collaborated with the Palma de Mallorca city council to offer a video series that delves into the different features and functionalities of the VR tool for each action:

- **Energy Communities:** This action is an innovative mechanism to deploy renewable energy communities in public roofs. The tool helps visualize the potential photovoltaic installations projected on the roofs of the district.
- **Retrofitting of buildings** to create high efficiency residential multifamily buildings: With the VR tool, the user can select the finishes to fit their preferences in the process of refurbishment of buildings in the Nou Llevant and La Soledad neighbourhoods.
- **Public and private sustainable housing:** ARV supports to create new positive energy social housing and high efficiency residential buildings. With the tool, users can take a tour through the different public and private developments promoted by IBAVI and the real estate company Metrovacesa.
- **GESA building:** The project proposes an energy renovation of the flagship heritage protected building and the VR tool allows users to envision the different constructive solutions for the building integrated photovoltaics, with opaque and semi-transparent solutions in the curtain wall of the historic building of GESA.

To watch the complete video series on the tool and know more about the regeneration of the Llevant Innovation District, click [here](#).

About the ARV project

The ARV project has received 20M euros in funding from the EU's Green Deal call to research climate positive circular communities in Europe. The project will provide guidelines and a political framework for future energy-efficient and circular solutions in the construction industry, establishing 6 climate-positive areas around Europe at the project's core.

The name ARV comes from Norwegian and means "heritage" or "legacy". It reflects the emphasis on circularity, a key aspect in reaching the project's main goal of boosting the building renovation rate in Europe. The consortium is formed by 35 partners from 7 European countries, and the coordinator is the Norwegian University NTNU. The project started in 2022 and will last until the end of 2025.

About the Spanish Demo District in Palma

The Spanish demo case is the Llevant Innovation District (Districte Innovació Llevant) in Palma de Mallorca. It encompasses a mixed used development 93 ha area including residential, tertiary, and educational buildings, with both new constructions and renovation activities. The set of actions that will be undertaken by the ARV project will involve resource efficient renovation processes and district energy analysis and operation, highlighting social, educational, and digital aspects to enhance citizens involvement.



- [IBAVI](#), the Public Company in charge of Social Housing in the Balearic Islands
- [METROVACESA](#), the leading firm in residential development in Spain
- [AIGUASOL](#), an international energy consulting cooperative with more than 20 years' experience
- [IREC](#), the Catalonia Institute for Energy Research

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