

BIMERR

Newsletter #4

November 2020

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 820621

Call identifier: LC-EEB-02-2018



BIMERR TOOL DEVELOPMENT NEWS

Great potential has been shown in early results from the BIMERR project's **ARIBFA** solution, developed by **CERTH**, where AR visualization of BIM models is provided directly on top of the actual building using the Hololens AR HMD. Using a combination of image-based initial registration and Hololens' spatial mapping capabilities renovation elements like new windows, wall coverings, heating elements etc. are being mapped directly on top of the existing ones so the responsible Architect or Renovation Manager can preview the impact and modifications before construction. Furthermore, visualization of IFC BIM models through the Unity3D engine and mapping of building components to 3D visual representations progresses at a quick pace. Next steps involve real-time object recognition and annotation in AR!

UBITECH has recently released the **Secure Provisioning Tool** and the **Query Builder**. Both components offer fundamental functionalities in terms of the **BIMERR Interoperability Framework**, such as access control mechanism and advanced retrieval capabilities to building-related data.

The 1st version of the BIMERR **Building Energy Performance Estimation (BEPE)** module, developed by **HYPERTech** has recently released. Utilizing IFC and obXML data, the module generates simulation input data files automatically, invokes the EnergyPlus engine and post-processes its results to calculate the BIMERR Energy KPIs

The first version of the BIMERR **RenoDSS (Renovation Decision Support System)** urban planning module has been completed. This first release provides the geographical perspective of the building under renovation, its surrounding buildings, detailed information about district-wide energy production/consumption patterns and how the building interacts with utility networks in its vicinity.



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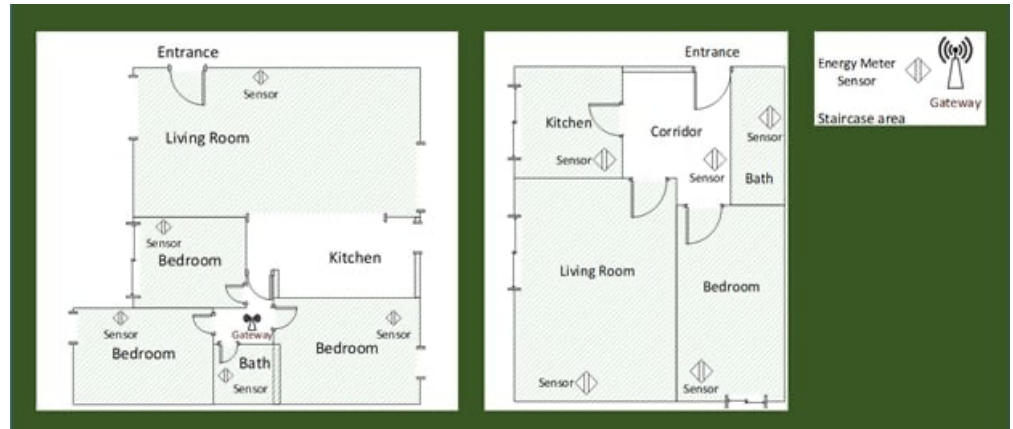
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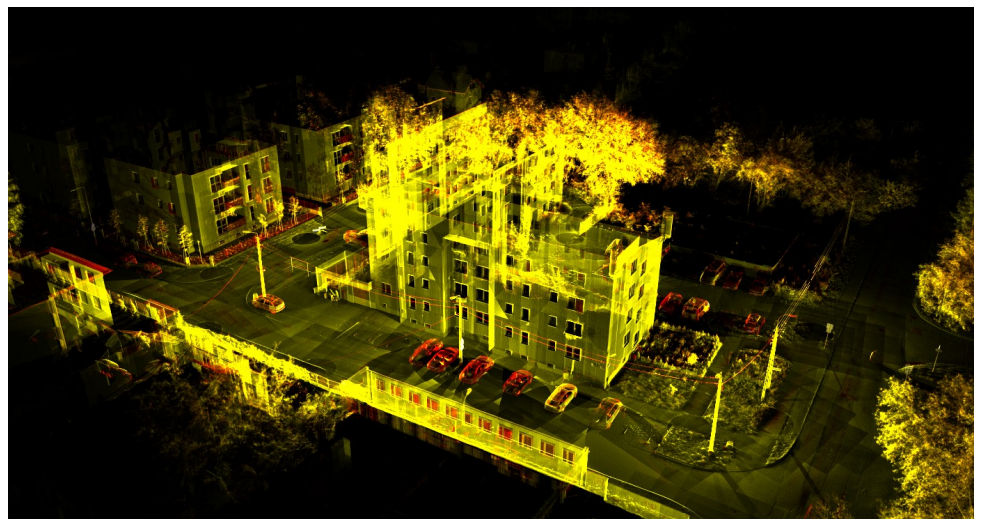
NEWS FROM THE PRE-VALIDATION SITES

Based on the BIMERR Wireless Sensor Network topology design for the pre-validation site in Greece developed by University of Peloponnese, the first phase installation of the Wireless Sensors Network for the pre-validation site of Conkat in Athens, has been completed. This network will provide the opportunity to verify the data flow and start validating several BIMERR tools, before the main installation that will take place in the pilot sites of Poland and Spain.



NEWS FROM THE PILOTS

Laser scanning of the BIMERR Pilot Buildings in Poland and Spain has begun and the first complete BIM models have been developed. These models constitute key-elements of the project as they are essential for the validation of many BIMERR features.



Laser scan of Pilot building in Warsaw, Poland

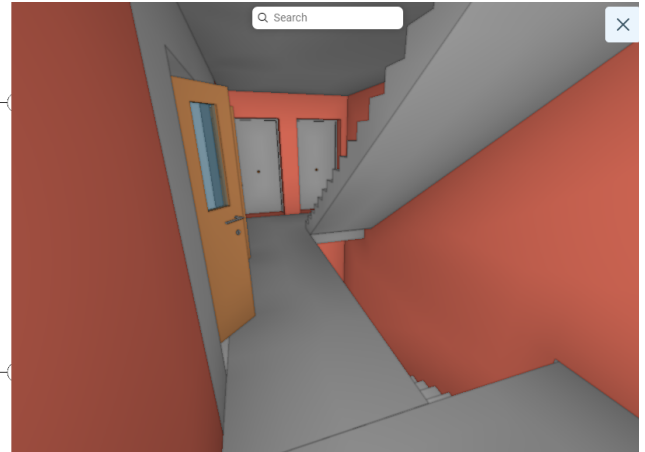
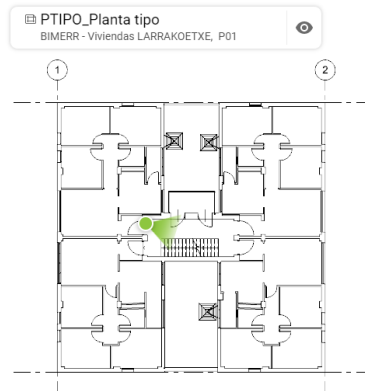
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BIM Model of the pilot site in Spain

OTHER NEWS

Last October, in the context of the 2020 edition of the Sustainable Places event, BIMERR participated in a collaborative workshop with other Horizon 2020 projects dedicated to research in the field of digital construction and buildings renovation. In addition to BIMERR, the participating projects were:

[SPHERE](#), [BIM4EEB](#), [BIMSPEED](#), [DIGIPLACE](#), [BIMzeED](#), [ENCORE](#) and [RenoZEB](#).

Under the title “**Digitalization tools for an energy efficient renovation**”, this selection of EU-funded projects gathered to discuss a common strategy to share findings on research for construction, moreover, to discuss the major technical and non-technical challenges faced, especially when dealing with the existing building stock and a segmented construction sector. The workshop was divided into two sections; in the first section, each project pitched their progress and intermediate achievements. In the second section, a selection of innovative tools was presented and demonstrated in a real application. To conclude, the projects representatives agreed that strengthening the synergy among their different but complementary projects would be a benefit for all. [A post-workshop report is available on the MDPI website](#) or you can [download it here](#).

Contact Us

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Contact us to share your feedbacks and ideas on this page.

The mission of the BIMERR project is to design and develop an ICT-enabled Renovation 4.0 toolkit comprising tools for Architecture, Engineering & Construction (AEC) stakeholder support throughout the energy efficiency renovation process of existing buildings.
