BIM4EEB
BIM based fast toolkit for Efficient rEnovation in Buildings

Press Release
BIM4EEB – Project first year

BIM4EEB is a European funded project that aims to develop a BIM based toolkit for energy efficient building renovation. The project has just completed the first year of activities in full steam. Along the year, project partners have run surveys, interviews, conducted researches and are now strongly engaged in the development of the BIM4EEB platform and the Building Information Modelling (BIM) toolkit.

Figure 1 BIM4EEB partners

In the initial phase, BIM4EEB partners surveyed and analysed the building renovation stakeholders' needs and requirements. The result has provided information for the development of the ontologies that would be the bases of the BIM toolkit.

After the first half of 2019, the project has progressed towards a more technical phase. The project team has been working on the specification and overall design of each proposed tool alongside with the development of the BIM management system.

The tools encompass the following functionalities.

1) Fast 3D mapping tool coupled with 3D Visualisation tool and Augmented Reality (AR) tool.
2) Tool linking BIM models to Building Automation Control systems (BACS).
3) Tool for checking BACs and BIM against building codes: Database management system.
4) Energy refurbishment assessment tool, including occupants' profiling mechanism with ambient user interfaces
5) Resident's user interface for renovation operation for fast track renovation operation.

This project has received funding from European Union's H2020 research and innovation programme under grant agreement N. 820660

At present, the partners have defined the user profiles for accessing the BIM Management System and the overall schema for visualising ontologies and data. A draft of the web interface for the system has already been developed and it will be improved and implemented in the future months.

Figure 2 BIM4EEB platform

The BIM Management System is part of an online platform that will have a dedicated set of applications using the Application Programming Interface (API) for the specific tools above mentioned. The platform will also function as a Common Data Environment (CDE) and will support the management of information along the renovation process.

Over the past months, the demonstration buildings were surveyed and prepared for the implementation of the BIM4EEB methodology and toolkit for renovation. As a first step, a set of room monitoring sensors were specified and will be installed shortly in the demonstration cases. This will provide relevant information about the building conditions before the renovation and will be useful to calculate the achieved targets and compare with the ones proposed.

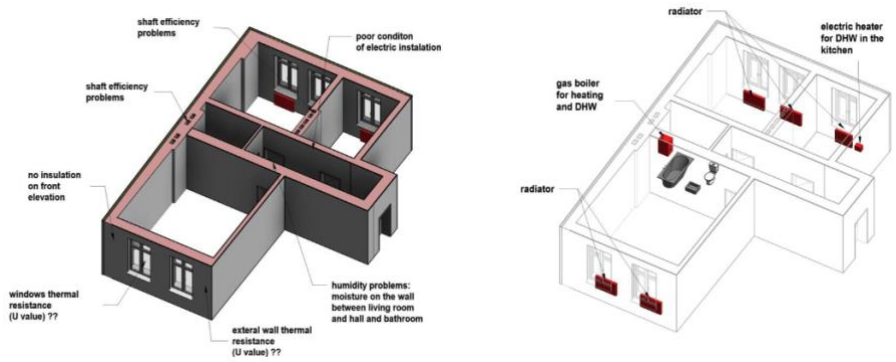

Figure 3 Demonstration case site survey

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Finally, BIM4EEB project partners are finalising the framework of ontologies describing the renovation work processes and managing the exchange of information. This framework includes both existing ontologies and renovation domain specific efforts.

In the next three years of the project, BIM4EEB platform will be further developed and tested in three demonstration sites in Europe. The results are continuously up-loaded on the project website.

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