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BOOK OF ABSTRACTS



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370. An occupant-centric approach in BIM environments to improve comfort and renovation planning

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The construction sector is among the main responsible for energy consumption and greenhouse gases emissions. Hence, buildings retrofitting shall be encouraged and supported by targeted actions to achieve a European climate-neutrality by 2050, as pointed out by EU Agenda objectives. In this context, the European Commission is promoting an action plan for the renovation wave. One step towards the renovation action is the exploitation of digital tools such as Building Information Model (BIM) and Internet of Things (IoT). This paper is related to the outcomes of an ongoing EU funded project –BIM4EEB- and it illustrates how the application of two BIM-based tools, namely BIMPlanner and BIM4Occupants, developed within the project. The two tools have respectively the purpose of sharing current information about the progress of construction site works among renovation stakeholders and giving inhabitants tailored information about their indoor home conditions, comfort preferences and energy consumption. In this regard, IoT devices installed in a demonstration building permitted the real-time evaluation and control of several parameters. Therefore, a pilot building, namely the Italian demonstration application of the project, is described for testing the proposed tools. Benefits connected to the BIM framework and IoT devices result in an improvement of data sharing and communication between renovation stakeholders, then in an enhanced building process.