

Digital Twins for Buildings Energy Management and IEQ within BIM Standard Specifications

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Abstract

One of the trending technologies that show a potential for efficient energy management and IEQ of buildings is Digital Twins (DTs). However, DTs still lack a clear definition, and that no standard functional requirements for their development are available. The feasibility of adopting DTs for energy management is, therefore, clearly diminished as building owners are unable to refer generically to this type of construction model when commissioning its development, let alone specify the requirements that must be met.

To help solve this issue, the authors propose the development of a DT (real-time) data exchange framework for building energy management and IEQ within Building Information Modelling (BIM) standard specifications, with the application on a real building case study using temperature and humidity sensors. This oral communication will focus on developing a flexible and low-cost open-source temperature/RH sensing device that will be used for integrating the monitored environmental data with the BIM.

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