GUEST EDITORIAL PREFACE

Special Issue on Building Information Management (BIM) and Housing

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Building Information Management can be defined as a set of practices that support and facilitate the management of information during the whole life cycle of a building or a facility, with the utilisation of 1) interoperable software, 2) shared semantically rich information models and 3) well-defined processes. The existence of a shared Building Information Model, would very much support Building Information Management. The use of Building Information Modelling Software also would contribute to this process. This special issue focuses on how the housing industry would benefit from Building Information Management practices.

Collective Self-Organised (CSO) housing is the focus of the first paper by Damen et al. The paper intends to develop BIM based Collaborative Design Technology (CDT) solutions in order to facilitate the management of CSO housing projects. A CDT/BIM model is tested on a CSO/IFD (Industrialised Flexible and Durable Building) housing project to demonstrate the benefits of CDT solutions. The authors believe that the developed model offers a new approach for "multi-stakeholder" CSO housing projects addressing various issues including "co-design" and communications between architects and a group of clients which is one the characteristics of such housing projects.

The next paper by Ajiero investigates the integration of Building Management System (BMS) and BIM to evaluate the energy performance of buildings. The provided information by BMS is used in the BIM models with the emphasis on the importance of providing accurate data when fed into the models. The study recommends dividing the buildings into "sub-metered" zones to identify and manage critical energy intensive zones/areas. The author also suggests to jointly use BIM and BMS in order to monitor and improve the energy performance of buildings in real-time.

The third paper by Han et al. evaluates the potential of integrating BIM when studying the occupants' behaviours and energy use patterns in domestic buildings. The study focuses on the links between occupants' behaviours and energy consumptions through detailed analysis of "energy usage patterns" as well as physical measurements on temperature, RH% and CO_2

in a case study building. The authors confirm a direct relationship between occupants' behaviours and occupancy patters and the energy performance of the building. They suggest the integration of energy prediction methods and acquired data from live monitoring of the occupants' behaviours into the BIM systems not only to improve and achieve more accurate results in terms of the building energy performance but also to assist building managers and other stakeholders in the design, delivery and running of a building during its lifetime.

Patlakas et al. investigate the "Potential, Requirements, and Limitations of BIM for Offsite Timber Construction" in the next paper. They argue that although offsite timber construction has several advantages, its share in the construction industry is tiny. In this respect, the authors highlight the design flexibility as the major issue to be addressed. Improving structural and environmental performances of the products at a reduced cost throughout the building's lifetime are also identified as the potential improvements. The authors argue that BIM can potentially address the barriers for broader application of offsite timber frame construction within the housing sector by reducing the costs while improving the design flexibility, manufacturing procedures and the final products as well as construction processes on site. They also provide some recommendations such as developing industrywide standards, component libraries and educational materials on BIM to achieve the aforementioned benefits.

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