



## Editorial

The Architecture, Engineering and Construction (AEC) industries have long sought techniques to decrease project cost, increase productivity and quality, enhance safety, and reduce project delivery time. Building Information Modeling (BIM) offers the potential to achieve these goals. BIM simulates the construction project in a virtual environment. With BIM technology, an accurate virtual model of a facility is digitally constructed. When completed, the computer-generated model contains precise geometry and relevant data needed to support the programming, fabrication, procurement, construction, and post-construction activities. It can be used by project stakeholders for planning and decision making throughout the project life cycle. BIM represents a new paradigm within AEC, one that encourages integration of the roles of all stakeholders on a project. It has the potential to promote greater efficiency and harmony among players who, in the past, saw themselves as adversaries.

This special issue of *Australasian Journal of Construction Economics and Building (AJCEB)* presents five scholarly research papers on BIM technology and process. These papers provide not only basic knowledge on BIM but also cover new cutting edge research on BIM applications and implementation being conducted in different parts of the world. The guest editors have written the first paper followed by four other papers, which were originally presented at the CIB W102 Knowledge and Information Management in Building Conference in France last year<sup>1</sup>. The presented conference papers were revised by the authors for this special issue and went through the established peer-review process of AJCEB.

In the first paper, “Building Information Modeling (BIM): Now and Beyond”, Azhar, Khalfan and Maqsood have discussed core concepts of BIM, its applications in the project life cycle and benefits for project stakeholders with the help of several case studies. Their paper also elaborates risks and barriers to BIM implementation and future challenges for AEC companies.

The next paper, “A BIM-based Approach to Reusing Construction Firm’s Management Information”, written by Ma Zhiliang, introduces a new approach based on BIM technology to reusing construction firm’s management information. In this paper, the current approaches are reviewed at first, and then the framework of the new approach is described. Next, the key issues of the BIM-based approach are clarified. Finally, a use case of the new approach is demonstrated. The author found that the BIM-based approach can be used in construction firms to better reuse the accumulated management information.

The following paper “A BIM-Info Delivery Protocol” by Hooper and Ekholm presents a framework to align consultant BIM-Info delivery expectations. The BIM-Info Delivery Protocol (IDP) is a compelling tool for use in the evolving world of virtual design and construction teams and can be used as a basis for a BIM Management Plan. If handled optimally BIM-Info can significantly enhance the quality of the product and safeguard the success of the project.

Redmond and West’s paper, “The Use of Cloud Enable Building Information Models – An Expert Analysis”, explores Cloud Computing as a centralized heterogeneous platform for enabling different BIM applications to be connected to each other through remote data servers. They found the cloud computing as a positive form of physical IT infrastructure that would increase efficiency and productivity among project teams. Using Delphi questionnaires, they also seek the answers of the following queries; (i) What are the most appropriate applications for advancing interoperability at the early design stage, (ii) What are

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<sup>1</sup> Joint CIB W78-W102 2011: International Conference –Sophia Antipolis, France, 26-28 October 2011

the most severe barriers of BIM implementation from a business and legal viewpoint, (iii) What is the need for standards to address information exchange between design team, and (iv) What are the uses of the most common interfaces for exchanging information? Please read their paper to find the answers of these queries.

In the final paper, "Aligning BIM with FM: Streamlining the Process for Future Projects, Kasprzak and Dubler, throws light on the applications of BIM in facility management through a case study of the Pennsylvania State University (PSU), USA. Their paper outlines the current initiative by the Office of Physical Plant (OPP) and the asset manager at PSU, to develop an information exchange framework between BIM and FM applications to be used internally. As a result of this research, PSU has been able to define owner operational requirements for future projects and develop a flexible integration framework to support additional BIM tasks and information exchanges.

We do hope that you would find these papers informative and useful in your research, teaching and practice endeavours. If you have any follow-up questions or would like to write a discussion note, please feel free to contact the Journal's editorial staff. We also encourage you to considering submitting your scholarly articles to Australasian Journal of Construction Economics and Building.

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Guest Editors

Special Issue of Australasian Journal of Construction Economics and Building on BIM