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BIM Experience of Hong Kong Housing Authority

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BIM Application in Hong Kong

Building Information Modelling (BIM) is the process of generating and managing building data during its lifecycle. 3D BIM models are good for visualization and clash detection. In Hong Kong, several developers, consultants and contractors have begun to use BIM in individual stages of the life cycle of projects. Housing Department, a government department and the executive arm of the Hong Kong Housing Authority, has successfully tried different BIM applications which include feasibility studies, design optimization, cost estimation, buildability studies, construction and site safety planning in capital works new works contracts.

BIM for Quantity Surveyor

How can quantity surveyor (QS) enjoy the business potential brought by BIM technology? “What gets modelled gets measured”, is it so simple? In Hong Kong, the interest of architects and engineers to learn and use BIM is much higher than that of QS. There is no surprise as basically BIM is primarily developed for design purposes and generally QS are receivers of design information for measurement and preparation of Bills of Quantities (BQ). What will be the motivation for QS to learn and use BIM? Push by project client probably will be the common answer. On the other hand, BIM can quickly provide scientific, consistent, organized and reliable information of the building models, which can be shared among project team members.

Extraction of quantities from BIM models for the purpose of measurement is a main process of BIM Quantity Takeoff (QTO), but there are several obstacles that need to be addressed before reaping the most benefits from using BIM. First, some essential measurement information in models has not been shared out or cannot be seen. Second, different methods of building up BIM models will lead to

different sets of elemental quantities. Third, the extracted quantities from BIM models generally not follow rulings of the Hong Kong Standard Method of Measurement of Building Works Fourth Edition (HKSMM4). To proceed to a more reliable BIM QTO, it is necessary to have Standard Approach of Modelling and carry out model audits before QTO.

Case Study in the Hin Tin Project

Collaboration among in-house QS, engineer and a BIM consultant (the modeller) was taken place in the Hin Tin Street Home Ownership Scheme Development (the Hin Tin) project. Trial BIM QTO on concrete works was carried out by using the scheduling function of Autodesk Revit.

The majority of quantities were directly extracted from the BIM models. However, setting formula and manual input of dimensions or quantities were still required to adjust the extracted quantities to comply with the rulings of HKSMM4 and the Hong Kong Housing Authority's General Preambles for building contracts.

The case study demonstrates that there is potential for QS to use BIM QTO to measure BIM models for preparation of BQ, but there are further rooms to improve the efficiency of implementation.

There are no immediate available solutions for QS to adopt BIM QTO to replace manual measurement but this shall not deter the journey of exploration of BIM implementation for QS discipline. Practice makes perfect, more trial use of BIM and sharing experiences help building up knowledge and technique in BIM applications for QS.