

By post and by email at bimroadmap@devb.gov.hk

29 February 2024

Development Bureau
18/F, West Wing
Central Government Offices
2 Tim Mei Avenue
Tamar, Hong Kong

Dear Sir/Madam

**Views from The Hong Kong Institution of Engineers
on Roadmap on Adoption of Building Information Modelling
for Building Plan Preparation and Submission**

On behalf of the Institution, I am pleased to present to you our views and suggestions as set out in the enclosure for your consideration on the captioned subject.

With our expertise and experience, the Institution welcomes the opportunity to work with the Government on the area of concern if and when it is needed.

Thank you.

Yours faithfully



Ir Peter SI
Director
(for President Ir Dr Barry LEE)

BL/AS/PS/SS

Enclosure

Views from The Hong Kong Institution of Engineers Regarding Roadmap on Adoption of Building Information Modelling for Building Plan Preparation and Submission

Building Information Modelling (“BIM”) offers major benefits for the development of Hong Kong, such as enhanced productivity, improved design and construction, effective project management, collaborative decision making, and facilities and asset management. It also supports the city’s vision for smart, innovative, and well-planned urban development. The Hong Kong Institution of Engineers (“HKIE”) has several observations on the current footing of BIM adoption, and would like to offer recommendations to the Development Bureau in regard to its proposed Roadmap on Adoption of BIM for Building Plan Preparation and Submission (“proposed Roadmap”).

Observations

2. It is evident that the current state of the industry presents a formidable challenge to the Government’s envisioned implementation of BIM. A scarcity of skilled professionals, including engineers well-versed in BIM methodologies, as well as proficient BIM modellers, coordinators, and managers, including technicians and CAD draughtsmen, is prevalent.
3. Notably, the existing training programmes for BIM coordinators and managers primarily emphasise the creation of the building model, overlooking the essential aspects of comprehending the attributes and parameters associated with individual objects within the model. It is imperative to acknowledge that various disciplines involved in a construction project necessitate engagement with distinct attributes for the same objects. Take the construction of a wall as an example, architects must consider the surface texture and visual aesthetics of an external wall; quantity surveyors require knowledge of the cost and volume of materials employed in constructing the wall; structural engineers need to be well-informed about the wall’s height, cross-sectional dimensions, material properties and support conditions; building services engineers may seek provisions for utility openings within the wall; and fire engineers develops engineering design strategies where compartmentation and/or escape arrangement beyond the prescribed.
4. Consequently, BIM coordinators and managers must possess a comprehensive understanding of the diverse disciplines involved. Alternatively, engineers from different fields proficient in utilising the BIM system should be entrusted with the responsibility of continuously updated the BIM throughout the different stages of a construction project.
5. The HKIE also has an observation that most graduate engineers possess limited knowledge of BIM due to the lack of relevant programme offerings.

Recommendations

6. The Development Bureau is strongly urged to expeditiously review the guidelines employed by various Government Departments in assessing and accepting BIM models. The formulation of consistent guidelines that encourage the utilisation of BIM will prove beneficial. During the guideline review process, it is essential to clearly articulate the required BIM level, specific details sought, as well as the responsible parties among different trades in facilitating the prescribed BIM inputs to ensure a BIM system that meets purpose. The concept of “the higher the level, the better the model” should be avoided. It is imperative for different Departments to engage in comprehensive discussions to establish the necessary details and, more importantly, the underlying justifications for requesting such specifics.

7. To foster the long-term development of BIM capabilities, the Bureau is recommended to establish collaborative partnerships with local universities housing construction- and engineering-related departments. The primary focus of these collaborations should revolve around the introduction of robust BIM training programmes at an implementation level, transcending basic concepts and theories.

8. As the industry aspires to achieve a fully integrated BIM approach for both buildings and infrastructures encompassing their entire life cycle, it is imperative to formulate a comprehensive policy or strategy for other related submissions, and beyond those pertaining to the prescribed General Building Plan. Fire services, water supply plumbing and drainage, electricity, telecommunication services and gas supply, among other utilities installation are important aspects that should be brought into discussion, even though non-General Building Plan aspects may not fall directly under the purview of the Buildings Department or Development Bureau. A collaborative approach in promoting BIM through the Government, developers and industry stakeholders will certainly yield more effective outcomes.