

Improving Construction Cost Prediction Through Standards and Technology

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SUMMARY

According to the Construction Intelligence Centre, \$2 trillion of construction work is required to satisfy the global demand arising from urbanisation and infrastructure from 2018 to 2022. To deliver smarter living and environmental resilience, while meeting this demand, governments and investors face difficult economic decisions. Attracting the required private sector investment requires greater certainty, accuracy and transparency in cost prediction. How can emerging digital construction technologies, such as BIM, artificial intelligence and blockchain, work with professional international standards like International Construction Measurement Standards (ICMS) to improve the cost prediction of global construction and infrastructure projects?

ICMS (www.icms-coalition.org) was developed collaboratively, by worldwide construction professional bodies, to provide high-level cost reporting standards. It enables consistent and comparable reporting of costs across markets and within markets and is designed to link to local, more detailed standards, where relevant. ICMS was launched in July 2017 and is already in use by investors, end users and professionals around the world: a second edition will be launched in 2019 to cover life cycle costs in addition to capital costs.

At the same time, digital technologies are emerging quickly in construction. BIM not only allows design to be undertaken more efficiently and effectively, but allows the interaction of design and cost, time and operational data. Thus, global professional work standards allow common rules for the collection of data in a BIM environment.

Improved cost prediction hinges not only on the amount of data available, but the pooling of data around similar projects (Skitmore et al, 2006). Similar projects may be classified, at early design stages, by type, floor area and basic attributes. ICMS allows this high-level comparison of data

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between international markets and therefore acts symbiotically with 5D BIM and improved cost prediction.

This standardised data and technological manipulation will allow more informed and better decisions to be made at each stage of the design and construction process. In turn, this will allow better cost prediction of projects leading to a 'should cost' rather than a 'will cost' framework.

As construction becomes more global and more complex, international professional construction standards allow professionals to guide technologists and fully utilise and embrace the opportunities that new technologies provide. Every professional dealing with the financial management of construction projects can help to embed the use and adoption of ICMS around the world.

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