Fact Sheet

IMMERSIVE MEDIA TO ENHANCE DIGITALISATION OF CONSTRUCTION ECOSYSTEM

In line with Singapore's push towards building its digital economy, an agreement was inked between IDA Technology Pte Ltd and its partners to implement a pilot project to enhance the digitalisation of the construction sector. Tapping on the SMEs Go Digital funding of S$80 million, the Digit-Alpha solution seeks to benefit companies in the construction ecosystem with the first pilot project using immersive media in the Singapore's construction sector.

A consortium comprising main contractor, Keong Hong Construction Pte Ltd, its consultants Arup Singapore Pte Ltd, sub-contractor, Great Resources M&E Contractors Pte Ltd, and CIAP architects Pte Ltd, are working together to tap on the Digit-Alpha immersive media technology to improve their communication process during the phases of construction. The enhanced real time information sharing is expected to result in cost savings and shortened project delivery.

With the large number of partners involved in a project's construction, including architects, consultants, main-contractors and sub-contractors, communicating timely updates and information throughout the project implementation can be complicated. The lack of real time sharing and updates can result in unnecessary re-works, which increases costs – the estimated variation orders (VO) can add up to 20% to the cost of a typical construction project. Construction companies are also required to submit timely and accurate and updated construction project information to regulatory authorities as part of the BIM process. To help the construction companies, IDA Technology Pte Ltd, an associate company of established architecture firm ID Architects, developed its Digit-Alpha solution.

Digit-Alpha is a digital shared platform that incorporates technologies such as Building Information Modelling (BIM), Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), Virtual Design and Construction (VDC) and Project Information Management (PIM). The platform will enable architects, consultants, main contractors and sub-contractors to access accurate construction information in real time. Once connected to the platform,

partners can experience the projects virtually, enabling them to "see" and "touch" the building facades and details, to facilitate project discussions. When all the necessary amendments are agreed upon, the changes will be automatically captured on the platform, ready for submission as a BIM Model to the relevant authorities. This solution thus optimises processes, minimises miscommunication and enhances productivity. With this solution, stakeholders can conveniently to dial in anytime, from anywhere, to discuss the progress of the project.

Integrated digital shared platforms such as Digit-Alpha are part of the Integrated Digital Delivery (IDD) drive described in the Construction Industry Transformation Map (ITM)[1]

IDD integrates processes and project parties along a building's life-cycle, from design to construction to operations and maintenance after its completion through advanced info-communications and smart technologies. Small- and medium-sized enterprises (SMEs make) made up more than 90 per cent of enterprises in the construction sector. Hence, with the use of shared IDD platforms such as Digit-Alpha by project parties like Keong Hong, IMDA hopes to support more SMEs and raise their IDD competencies.

Over the next two years, IMDA plans to support up to five consortiums, and benefit around 30 SMEs by catalysing the adoption of Digit-Alpha. IMDA, with BCA, hopes that with such support provided to encourage SME adoption, more of such technologically-driven solutions aligned to the IDD initiative can be developed and significantly help steer our construction SMEs towards transformation. As a result, there will be greater investment in capability building and more collaboration among firms to capture new business opportunities, and more importantly, for more Singaporeans to join the sector as a more technologically advanced workforce is needed.

About Infocomm Media Development Authority (IMDA)

[1] The Construction ITM, which was co-developed by the BCA, industry, IHLs and the unions, has identified three focus areas which offer to transform the built environment sector, namely, Green Building, Design for Manufacturing and Assembly (DfMA), and Integrated Digital Delivery (IDD). Collectively, firms which are able to combine experience and expertise in these three areas will gain a competitive advantage both domestically and abroad

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