

**Construction Industry Council**

**Committee on Productivity**

Meeting No. 002/20 of the Committee on Productivity (Com-PRO) was held on 17 June 2020 (Wednesday) at 2:30 pm in Board Room, 38/F, COS Centre, 56 Tsun Yip Street, Kwun Tong, Kowloon.

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Summary Notes of the Com-PRO Meeting No. 002/20:

<b>Agenda Item</b>	<b>Paper</b>	<b>Major Resolutions / Progress Highlights</b>
2.1	CIC/PRO/M/001/20	<b>Confirmation of Minutes of the Previous Meeting</b> Members confirmed the minutes of the Com-PRO Meeting No. 001/20 without any amendment.
2.2	-	<b>Matters Arising from the Previous Meeting</b> <b>Item 1.2:</b> The meeting with the Development Bureau and the Standing Committee on Concrete Technology of the Civil Engineering and Development Department on CARES’s product certification scheme (the Scheme) proposal was held on 11 May 2020. CARES HK could develop the Scheme based on the previous study carried out by the Hong Kong Concrete Institute in 2013. The Development Bureau would find a suitable owner to develop and manage the Scheme.  <b>Item 1.3:</b> The consultancy on “Establishing a Certification Scheme for Construction Robots” had been awarded to SGS Hong Kong Limited at tender price of HK\$599,600 and would commence on 2 July 2020. The consultancy on “Driving DfMA Adoption to Enhance Productivity for E&M Works in Hong Kong Building Projects” had been awarded to AECOM Asia Company Limited at a tender price of HK\$1.5 million and would commence on 24 June 2020.  A summary list of the research projects and consultancy studies overseen by Com-PRO, with progress and expenditure updates, was tabled. Members had no comments.

<b>Agenda Item</b>	<b>Paper</b>	<b>Major Resolutions / Progress Highlights</b>
		<p>Members approved two requests for extension of time, (i) The research on “Smartphone as Next-generation Monitoring Devices for Construction-induced Vibrations and Noise” (3-month extension to May 2021) and (ii) The consultancy on “Design and Develop 2.5m<sup>3</sup> Concrete Skip with Remote Control of the Gate” (6-month extension to October 2020), on the ground of impact of the COVID-19 outbreak.</p> <p>The Secretariat would circulate the final reports of the research on “Modular Integrated Construction for High-rise Buildings in Hong Kong: Supply Chain Identification, Analyses and Establishment” conducted by Dr Wei PAN of the University of Hong Kong, for Members’ comment.</p>
2.3	CIC/PRO/P/007/20 (for endorsement)	<p><b>2021 Business Plan and Budget</b></p> <p>The Secretariat presented the proposed 2021 business plan and the associated budget. The estimated budget of Com-PRO in 2021 would be HK\$7.1 million. The work plan for 2020 - 2022 followed the three strategic directions endorsed by Com-PRO in May 2018 to drive the productivity of the Hong Kong construction industry, including. i) Factory-based Construction, ii) Mechanised Construction and iii) Other Productivity Enhancement Initiatives.</p> <p>Com-PRO would continue to promote and facilitate the adoption of DfMA riding on the DfMA Alliance’s efforts in tackling technical and policy issues, providing training on DfMA and undertaking various promotional activities.</p> <p>A certification scheme for qualifying construction robots and automation systems would be developed by Q1 2021 tentatively. Com-PRO would leverage on the MoU signed between the CIC and the Hong Kong Science and Technology Parks, to incubate robotics development, promote the adoption of construction robots and formulate a training framework for robots operation.</p> <p>A technical forum on advanced system formwork was proposed to be organised in 2021 to uplift the skills and knowledge of industry stakeholders on system formwork.</p>

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		<p>Members raised concerns on the definition of scope for driving DfMA in the building sector, its current positioning with MiC, whether policy was needed to drive DfMA, and if resolving hurdles in MiC would help DfMA. The CIC Chairman suggested the Secretariat to organise a half-day workshop with the Development Bureau and CIC Committee members on DfMA, consolidating the work done so far on DfMA and MiC and generating ideas for developing the roadmap for future development.</p> <p>After deliberation, Members endorsed the 2021 business plan and the associated budget.</p>
2.4	-	<p><b>Progress Update on the Research Study on Development of an Appraisal Framework for Assessing the DfMA Content for Buildings in Hong Kong</b></p> <p>Ir Prof. Joseph MAK and his research team presented the DfMA Scoring Scheme (DSS) developed for assessing the DfMA content of residential buildings in Hong Kong, based on three categories of components. These include horizontal components, vertical components and other DfMA items. Major clients/ developers, consultants and contractors were consulted in May 2020.</p> <p>Members commented that the current DSS was limited in the area of precast construction. Members suggested to assess other construction methods or technologies that could improve productivity. These include labour intensive and time consuming works like finishes works, works in external areas of the building and non-typical floors and wet works. Improvements were required in these areas. Members also concerned that the proposed minimum score of 60 was low and were not sure how the DSS could drive the wider adoption of DfMA in the private sector. The research team would revise the DSS / report by considering Members' comments. The Secretariat would circulate the draft final report to seek Members' approval when it is available.</p>
2.5	CIC/PRO/P/008/20 (for approval)	<p><b>Application for the CIC R&amp;D Fund – Data-driven Corrosion Health Monitoring and Microclimate Mapping of Hong Kong using Internet of Things (IoT) Technology</b></p> <p>Dr Clarence CHOI from the University of Hong Kong presented his research proposal on the captioned subject with a project duration of 24 months at a cost of HK\$875,043 from the CIC R&amp;D funding.</p>

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		The main objective of the research was to adopt a data-driven approach to map out corrosion microclimates in Hong Kong through the use of a new IoT (Internet of Things) corrosion sensor. An industry standard for Hong Kong would be delivered. Members concerned whether the research could have significant productivity benefits and the covering range of projects was not sufficiently wide. The research proposal was not approved.
2.6	CIC/PRO/P/008/20 (for approval)	<p><b>Application for the CIC R&amp;D Fund – Application of Maturity Method for Determination of Early-age Concrete Strength in Hong Kong Construction Industry</b></p> <p>Ir Goman HO from ARUP and his research team presented their research proposal on the captioned subject with a project duration of 9.5 months at a cost request of HK\$700,000 from the CIC R&amp;D funding.</p> <p>The main objective of the research was to study the applicability of the maturity method and maturity functions in predicting the early-age strength development of concrete commonly used in Hong Kong. Model calibration parameters would be proposed and a practical guidebook would be published to facilitate application of the maturity method. The Development Bureau would identify sufficient pilot projects for trial adoption with a view to setting the standard and would coordinate the review of relevant specifications. After deliberation, Members approved the research proposal.</p>
2.7	-	<p><b>Updates on “M8 – Digitalisation”</b></p> <p>Ir Dr Richard PANG presented the work done to support the ‘Working Group on Establishment of a Taskforce on Digitalisation’. Members were invited to provide views on the development of the roadmap for digitalisation, especially in relation to the work to support adoption of DfMA / MiC, Digital Works Supervision System, etc., to achieve productivity enhancement.</p>

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2.8	-	<p><b>Any Other Business</b></p> <p>Ir Derek SO, was nominated and agreed to be the representative of Com-PRO to participate in the ‘Steering Committee on the Consultancy Study on Improving Time, Cost and Quality Performance of the Hong Kong Construction Industry’.</p> <p>Members were invited to join the webinar on DfMA on 19 June 2020 which recorded more than 1,000 registrants. <i>(Post-meeting note: 816 registrants had joined the webinar.)</i></p> <p>The Shenzhen Construction Science &amp; Technology Promotion Center had invited the CIC to jointly organise a Forum on MiC, Robotics, Artificial Intelligence and Digitalisation in August 2020. Members supported this in principle, on the understanding that it had no financial implication for the CIC as a co-organiser. The Secretariat would keep Members updated on this Forum when more details are available.</p>
2.9	-	<p><b>Next Meeting 003/20</b></p> <p>The next meeting would be held in September 2020. The Committee Secretariat would inform Members once the meeting details were confirmed.</p>

*Remarks: The mentioned papers discussed at the meeting of Com-PRO and/or the full minutes can be made available to Council Members from the CIC Secretariat upon request.*