

Construction Industry Council

Committee on Productivity

Meeting No. 002/18 of the Committee on Productivity was held on 18 July 2018 (Wednesday) at 10:00 am in Board Room, 38/F, COS Centre, 56 Tsun Yip Street, Kwun Tong, Kowloon.

Present:	Ringo YU	(RiYu)	Chairman
	Luen-kiu CHOW	(LKC)	
	Ivan FU	(FI)	
	Patrick WONG	(PtW)	for Permanent Secretary for Transport and Housing (Housing)
	Alex KWAN	(KFK)	
	Simon KWOK	(TKK)	
	Kenneth MO	(KM)	
	Vitus NG	(VN)	for Permanent Secretary for Development (Works)
	Rocky POON	(LKP)	
	Raymond WAN	(RdW)	
	Jason WONG	(JaW)	
	Sze-chun WONG	(SCW)	
	Franki YEUNG	(FY)	
	In Attendance:	Thomas LINNER	
Francis LEUNG			(Presenter)
Chris TONG			(Presenter)
Hortensia CHAN			(Presenter)
Simon WONG			(Presenter)
Jim SHEERIN			(Presenter)
Siu-lai CHAN			(Presenter)
Siwei LIU			(Presenter)
Songye ZHU			(Presenter)
Albert CHENG		(CTN)	Executive Director, CIC
Richard PANG		(RPg)	Director – Industry Development
James WONG		(JsW)	Senior Manager – Construction Productivity
Terry LAM		(TyLm)	Manager – Construction Productivity
Eason YUNG		(EnY)	Officer – Construction Productivity
Apologies:	Kwok-fai CHUNG	(CKFi)	
	Shujie PAN	(PSJ)	
	Derek SO	(KLS)	

MINUTES

Action

2.1 Confirmation of the Minutes of the Previous Meeting

Members confirmed the minutes of Com-PRO Meeting No. 001/18 with a minor amendment on item 1.7 – “the Hong Kong Housing Society (HKHS) has already adopted a similar precast concrete shear wall system in *one of their projects*.”

All to Note

2.2 Matters Arising from the Previous Meeting

Item 1.1: The Committee Secretariat has consulted all Members on the initiatives to be included in the “long-list” on a 3-year strategic plan of productivity enhancement for the Hong Kong construction industry. The findings were presented under the agenda item 2.5.

Item 1.4: The Committee Secretariat has circulated two final reports of the consultancy studies on construction process re-engineering and comprehensive productivity appraisal on 13 June 2018 for Members’ review. The Committee Secretariat has been consolidating comments from Members for the consultants to consider and respond, and following up with HKPC to consult the related trade associations for comments on the recommendations.

**CIC
Secretariat**

The Committee Secretariat has informed the principal investigators on the Committee’s decisions on the consultancy studies, viz. “Feasibility Study of Lego-inspired Construction” and “Future Application of 3D Printing in Construction: Impact on Construction Industry Supply Chains in Hong Kong”.

Item 1.6: The research study entitled “Innovative Backfilling Materials for Pavements in Hong Kong” commenced and the Committee Secretariat would invite the research team to present their initial findings to the Committee in due course.

2.3 Investigating the Potential of Implementing Robotics and Automation in the Context of Large-scale Housing Development for Hong Kong

Dr.-Ing. Thomas LINNER from the Technical University of Munich

(TUM) presented the findings of the consultancy study and the facade painting robot system. Members had no further comment on the arrangement that the prototype would be shipped to Hong Kong in August tentatively and displayed in the CITAC. He also proposed a roadmap for additional work: developing a full scale facade-processing robot based on the prototype (Phase 2A), developing 5 to 6 additional trade specific mock-up robots for use in the construction industry of Hong Kong (Phase 2B), and organising an international symposium on on-site construction robotics in 2019 (Phase 2C).

Chairman asked Dr.-Ing. LINNER the cost for Phase 2A and 2B studies as an extended study. Dr.-Ing. LINNER replied that the Phase 2A might cost 500,000 to 600,000 Euros with a duration of 1.5 years, and cost in total around 1 million Euros with Phase 2B. Detailed proposal will be submitted by TUM for Com-PRO's consideration.

2.4 Briefing on the Buildability Evaluation System (BES)

Mr. Francis LEUNG from the Development Bureau introduced the Buildability Evaluation System (BES) and Mr. Jim SHEERIN from Arcadis explained the structure, scoring and weighting of the 6 modules under the BES. Different from the one used in Singapore, the BES emphasised on management & coordination, site planning & building siting, project life cycle taking into consideration for the ease of facility construction and maintenance.

Some Members were concerned that the scoring system involves personal judgement and asked whether there were incentives or penalties under the system. The team explained that the system aims to encourage good practices through getting people to think about buildability at an early stage of the project and was not intended to be a penalty system. CIC would keep an eye on the implementation of the BES in the public sector.

2.5 Discussion on the “Long-list” on Construction Productivity Enhancement

The Committee Secretariat presented the “long-list” on construction productivity enhancement. Members agreed the proposal on

establishment of a Buildoffsite HK as a 3-year pilot scheme, with the aim to link up industry stakeholders on taking forward the adoption of prefabrication in construction projects. A detailed proposal would be submitted to Com-PRO by Mr. Tim HALL (Director of Buildoffsite UK) for consideration in the next meeting.

For mechanised construction, Members agreed to further discuss on the work to be carried out in phase 2 of the consultancy study on on-site robotics development upon receipt of a proposal from TUM, and on the budget plan for the proposed productivity conference in 2019. The Committee Secretariat would investigate the potential of applying external funding source, such as the Innovation and Technology Fund, to support the phase 2 on-site robotics development.

**CIC
Secretariat**

The Committee Secretariat would develop the framework of the Construction Productivity Metrics (CPM) to collect relevant data riding on the existing Construction Workers Registration System (CWRS) and levy system, for compiling construction labour productivity rates.

2.6 Report on Technical Visit to Finland and Germany on Construction Automation Technologies

The Committee Secretariat presented the outcomes of the technical visit to Finland and Germany, which included visiting various factories and institutions on the aspects of automation, digitization, prefabrication, and research & development, and attending the Automatica 2018, which was the trade fair for smart automation and robotics.

The trip was co-organised with the Hong Kong Science and Technology Park and the Federation of Hong Kong Industries. Members who joined the visit were satisfied with the arrangement on the visiting spots and found the visit useful in terms of learning about innovation, value and practicability from these organisations and the trade fair.

2.7 Research Proposal on Development of Composite Structures for Enhancement of Productivity and Efficient Utilization of Manpower

Prof. Siu-lai CHAN from the Hong Kong Polytechnic University

presented the aim of the proposed research, which was to improve his software RCD2016 in further assisting engineers in designing complex composite structures to reduce the use of reinforcement. Members had concerns on the popularity of using composite structures in Hong Kong and the demand for usage of the software. Chairman suggested and Members agreed to include the research proposal in the “long-list” after members’ deliberation.

2.8 Research Proposal on Smartphones as Next-generation Monitoring Devices for Construction-induced Vibrations and Noise

Dr. Songye ZHU from the Hong Kong Polytechnic University presented his research plan in using smartphones for vibration and noise measurement and the related mobile application development. Members queried the data accuracy in using smartphones compared to traditional monitoring devices and the frequency of updating the cloud system. CTN suggested the research study to be separated into two phases, with the first phase to prove its concept, before considering whether to conduct a second phase study. Dr. ZHU would revise his proposal and the Committee Secretariat would then circulate the revised proposal for Members’ further consideration and endorsement.

**CIC
Secretariat**

2.9 Any Other Business

There was no other business.

2.10 Next Meeting 003/18

The next meeting would be held in September 2018. The Committee Secretariat would inform Members once the meeting details are confirmed.

All to Note

The meeting was adjourned at 12:50 pm.