

Construction Industry Council

Committee on Building Information Modelling and Construction Digitalisation

Meeting No. 004/23 of the Committee on Building Information Modelling and Construction Digitalisation (Com-BIM & CD) was held on Tuesday, 5 December 2023 at 2:30pm at Board Room, 29/F, Tower 2, Enterprise Square Five (MegaBox), 38 Wang Chiu Road, Kowloon Bay, Kowloon, Hong Kong and through video conference (Microsoft Teams).

Summary Notes of the Com-BIM & CD Meeting No. 004/23:

Agenda Item	Paper	Major Resolutions/ Progress Highlights
		Prof. Jack CHENG welcomed the new Member, Mr. Alan TANG, a successor to the position of the Principal Assistant Secretary (Works) 3 of the Development Bureau, to join the Committee. He expressed his sincere appreciation to Mr. Alfred WONG for his support to the Committee during his tenure.
4.1	CIC/BIM/M/003/23	Confirmation of Minutes of the Previous Meeting Members confirmed the Minutes of the meeting held on 26 September 2023.
4.2	CIC/BIM/M/003/23	Matters Arising from the Previous Meeting Members received the progress report on matters arising from the previous meeting, circulated on 28 November 2023 with no further comments: <u>Item 3.3 Applications for the CIC Research and Technology Development Fund</u> Upon deliberation, Members agreed to disapprove the proposal of “Construction Progress Monitoring Using Laser Scanning and BIM Technology” as the proposal did not possess building services elements and that similar products are available in the market.

Agenda Item	Paper	Major Resolutions/ Progress Highlights
		<p><u>Item 3.12 Any Other Business</u></p> <p>(a) <u>The buildingSMART International Standards Summit - Lillestrøm 2023</u></p> <p>Ir Dr. George WONG highlighted the experience sharing of the trip in a panel discussion session of the Hong Kong Alliance of Built Asset & Environment Information Management Associations' (HKABAEIMA) 4th Anniversary Event on 1 December 2023 at the CIC Digital Twin Hub. The post-visit report had been circulated to Members for information via Paper No. CIC/BIM/P/001/24 after the meeting. Thereafter, the report would be submitted to the Council for information (see Annex).</p> <p>(b) <u>To engage suppliers/ manufacturers to offer their equipment family members in LOD400 for the industry</u></p> <p>Ir Antonio CHAN supplemented that the Council of the Hong Kong Federation of Electrical and Mechanical Contractors Limited (HKFEMC) had been reorganised. He would prioritise the work and collaborate closely with the CIC to drive this initiative. In addition, it was targeted to engage more HKFEMC members to join the first session of BIM course offered by the School of Professional Development in Construction (SPDC) in 2024.</p>
4.3	CIC/BIM/P/035/23 (for information)	<p>Progress Reports on the Committee on Building Information Modelling and Construction Digitalisation</p> <p>Members took note of the progress report of 2023 Major KPIs and 2023 actual expenditure versus approved budget.</p> <p>Prof. Jack CHENG appreciated the dedication and tireless efforts of the Members and the CIC Secretariat on achieving most of the Major KPIs of the Com-BIM & CD in 2023.</p>

Agenda Item	Paper	Major Resolutions/ Progress Highlights
4.4	CIC/BIM/P/036/23 (for information)	<p>Progress Updates of the Construction Digitalisation Department (including key events/ projects in coming months)</p> <p>Members took note of the progress updates of the Construction Digitalisation Department including key events/ projects in coming months and the Task Force on Development of BIM-related Digital Solutions (TF-DBDS).</p> <p>Ir Dr. George WONG highlighted the proposed activities in 2024, including the “CIC BIM Competition 2024”, “CIC Global Construction Digitalisation Forum and Exhibition (GCDFE) 2024” and “CIC Construction Digitalisation Award Ceremony 2024”.</p>
4.5	CIC/BIM/P/037/23 (for information)	<p>Progress of the Task Force on BIM Training</p> <p>Members took note of the progress of the Task Force on BIM Training (TF-BT).</p> <p>Ar. Lawrence LEUNG briefed Members on the progress of the TF-BT.</p>
4.6	CIC/BIM/P/038/23 (for information)	<p>Progress Report on the BIM Certification and Accreditation Schemes</p> <p>Members took note of the progress report on the BIM Certification and Accreditation Schemes.</p> <p>Ms. Sandy FONG would like to follow up on the status of establishment of certification scheme by The Hong Kong Institute of Surveyors (HKIS).</p> <p>Mr. Sunny CHOI reported that HKIS might not be able to establish the certification scheme for CCBM/ CCBC with the CIC under a streamlined assessment process due to resource issues. However, HKIS would set up a task force to address the issue and to set up a roadmap to accomplish the task.</p> <p>[Post-meeting note: The CIC Secretariat received the letter from HKIS on 25 January 2024 confirming that a task force led by their Working Group on BIM to assess their capacity,</p>

Agenda Item	Paper	Major Resolutions/ Progress Highlights
		exploring collaborative opportunities and developing a comprehensive plan to address the current gap in BIM certification among HKIS members had been established. On 8 February 2024, the President of HKIS provided their initial work plan to CIC including the timeline and pilot certification assessment for further discussion.]
4.7	*CIC/BIM/P/039/23* (for information)	<p>★Progress of the Task Force on BIM Standards</p> <p>Members took note of the progress of the Task Force on BIM Standards.</p>
4.8	*CIC/BIM/P/040/23* (for information)	<p>★Progress of the Task Force on BIM Submission to the Buildings Department</p> <p>Members took note of the progress of the Task Force on BIM Submission to the Buildings Department (TF-BSBD).</p> <p>Ir Dr. George WONG highlighted the survey and interviews conducted with Members of TF-BSBD on the views of BIM submissions to the Buildings Department (BD). The TF-BSBD would arrange meetings with Chairpersons of the Com-BIM & CD and other Task Forces to address the issues.</p> <p>Ms. Sandy FONG supplemented that as requested by the Chairperson of the TF-BD, the details of survey results had been shared to the responsible officers in the Planning and Lands Branch of DEVB, for their information.</p>
4.9	*CIC/BIM/P/041/23* (for information)	<p>★Tentative Meeting Schedule for Year 2024</p> <p>Members took note of the tentative meeting schedule for year 2024.</p>

Agenda Item	Paper	Major Resolutions/ Progress Highlights
4.10		<p data-bbox="775 339 1059 371"><u>Any Other Business</u></p> <p data-bbox="775 395 1323 427">(a) <u>BIM Funding Application Statistics</u></p> <p data-bbox="824 451 2038 603">Ir Dr. George WONG highlighted the increment on the funding application and amount on the CITF on the BIM training and BIM adoption had been slowed down from December 2021 to September 2023. Members deliberated on the reasons of the phenomenon and suggested ideas to encourage BIM adoption by the industry.</p> <p data-bbox="824 627 2038 738">Prof. Jack CHENG suggested to arrange a round-table meeting with HKFEMC members, especially small and medium enterprises, and concerned parties for promoting BIM adoption to the contractors and subcontractors.</p> <p data-bbox="775 762 1682 794">(b) <u>CIC Research & Development Fund – Research Agenda 2024</u></p> <p data-bbox="824 818 2038 930">Ir Dr. George WONG introduced the Research Agenda of the CIC Research and Development Fund (R&D Fund) to Members with the proposed topics in BIM research areas in 2024. Members agreed with no further comment.</p> <p data-bbox="775 954 1733 986">(c) <u>General Building Plan (GBP) Submission using BIM Technology</u></p> <p data-bbox="824 1010 2038 1362">Ms. Karen CHEUNG informed Members that the Hong Kong Government would promulgate a roadmap for full adoption of BIM in the preparation and approval of building plans for private development projects by the end of 2023 according to the Chief Executive’s 2023 Policy Address. She supplemented that a joint project of the BD and the Lands Department (LandsD) on the Plug-in Tools for Floor Areas Calculation Checking in General Building Plan (GBP) Submission using BIM would be launched in Q1 2024. It would facilitate the industry to develop a single BIM model for both submissions to the BD and the LandsD. To support the industry, the BD had also prepared the GBP Calculators for automated calculation of gross floor area and site</p>

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		<p>coverage and generation of standard schedules which could be readily imported and updated in the calculation sheets prepared by AutoCAD for submission to BD. These excel calculators were available on the BD's website.</p> <p>[Post-meeting note: An exchange session with DEVB, BD, Spatial Data Office (SDO), Chairperson of Com-BIM & CD and CIC CD staff on the Promulgation of Roadmap on Adoption of Building Information Modelling (BIM) for Building Plan Preparation and Submission had been arranged on 25 January 2024.]</p>

Remarks: The mentioned papers discussed at the Committee on Building Information Modelling and Construction Digitalisation and the full meeting minutes can be made available to Council Members from the CIC Secretariat upon request.

Construction Industry Council

Committee on Building Information Modelling and Construction Digitalisation

**Post-visit Report to Visit to buildingSMART International Standards Summit –
Lillestrøm 2023**

Purpose

- 1.1 This paper presents a post-visit report on the buildingSMART International Standards Summit - Lillestrøm 2023 of a delegation team of Hong Kong AEC professionals and the Construction Industry Council (“CIC”).

Background

- 2.1 The CIC received an invitation from the Hong Kong Chapter of buildingSMART to attend the buildingSMART International Standards Summit - Lillestrøm 2023. Professor Jack CHENG Chin-pang, Chairperson of the Committee on Building Information Modelling and Construction Digitalisation (Com-BIM & CD), supported the invitation.
- 2.2 Professor Jack CHENG Chin-pang designated two representatives, Ir Dr. George WONG, Senior Manager-Industry Development and Mr. Ion CHAN, Manager-Building Information Modelling from the Construction Digitalisation Department of the CIC to join. Jack and Mr. Kevin WONG Sai-choi, a Member of the Com-BIM & CD also joined the Summit.
- 2.3 The buildingSMART was founded in 1995 and it is a worldwide authority driving the transformation of the built asset economy through creation and adoption of open, international standards. One of their key missions is to promote an open data format in BIM named the Industry Foundation Classes (IFC) format. They believe open sharable asset information will help the supply chain unlock more efficient and collaborative ways of work throughout the entire project and asset lifecycle. Every year, the organisation organises two large-scale events globally and bring together international openBIM community to help refine the standards and services that ensure a more sustainable, productive, and collaborative future for the built asset industry.

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(for information)

- 2.4 The buildingSMART International Standards Summit - Lillestrøm 2023 was held at Thon Hotel Arena in Lillestrøm, Norway from 18 to 21 September 2023. The 4-day event specifically focused on digital products and openBIM workflow through Workshops, Masterclass, Award Presentation and Domain Sessions, which are workgroups focused on specific area or context on the development of open solutions and standards.
- 2.5 Two additional side meetings and two side visits were arranged in between and after the Summit to take full advantage of the event. The buildingSMART Regulatory Domain meeting took place on 19 September 2023 and the meeting with buildingSMART International President and CEO was held on 20 September 2023. The visit to Viking Ship Museum project and Catenda office took place on 21 September 2023.
- 2.6 A delegation of 22 Hong Kong construction professionals joined the Summit. In the event of openBIM Awards 2023, there were five Hong Kong teams out of 22 finalists presented during the Summit.

The Hong Kong Delegation

- 3.1 Invitation to join the Hong Kong delegation was organised by the Hong Kong Chapter of buildingSMART. A 22-member delegation was formed comprising of Members of the CIC, HKSAR Government departments, Consultants and Contractors.
- 3.2 The following organisations joined the delegation:
- (a) Water Supplies Department;
 - (b) Planning Department;
 - (c) Hong Kong Alliance of Built Asset & Environment Information Management Associations (HKABAEIMA);
 - (d) The Hong Kong University of Science and Technology;
 - (e) Wings & Associates Consulting Engineers Limited;
 - (f) Logistics and Supply Chain MultiTech R&D Centre;
 - (g) Integrated Design Limited;
 - (h) China Harbour Engineering Company Limited; and
 - (i) ZS Consulting Company Limited.
- 3.3 Five of the 22 finalists¹ of the openBIM Awards 2023 from Hong Kong are as follows:

¹ The buildingSMART openBIM® Awards 2023 – List of Finalists: <https://www.buildingsmart.org/the-buildingsmart-openbim-awards-2023-finalists-announced/>

- (a) Category of Asset Management:
Water Supplies Department (HKSAR) – “Intelligent Water Trunk Transfer System with Predictive Maintenance, and AMIS-supported Asset Management, and AI-Driven openBIM and openGIS Integration for Smart Water Management”
- (b) Category of Construction for Buildings:
ZS Consulting Co. Ltd. – “openBIM for Achieving Urban Sustainability in Hong Kong - Refurbishment of The South China Hotel”
- (c) Category of Construction for Infrastructure:
China Communications Construction Company Ltd. – “I-Park - openBIM Application in Hong Kong Integrated Waste Management Facilities Phase 1 (IWMF) -Construction”
- (d) Category of Professional Research:
Hong Kong University of Science and Technology and National University of Singapore – “openBIM-based Design Optimization and Prefabrication Automation of Steel Reinforcement”
- (e) Category of Technology:
Wings & Associates Consulting Engineers Limited – “openBIM Checker - A hassle-free IDS-based solution enabling robust quality check on the LOIN and consistency of openBIM data across all stakeholders from design, construction, handover to facility management”

Highlights and Takeaways

4.1 International Standards Summit - Lillestrøm 2023 and side visits

(a) Highlights

During the 4-day Summit, a total of 48 sessions were conducted including stage presentation, workshops and masterclasses, case studies, panel discussion, etc. Some highlights for the topics or areas our members learnt in the Summits are listed below:

- (i) openBIM and Product Passports;
- (ii) Latest Digital Twins development;

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(for information)

- (iii) Latest openBIM standard development including IDS, openCDE, IFC4.4, IFC5;
- (iv) Latest IFC validation service and openBIM Ecosystem; and
- (v) Latest Innovative BIM use cases in Bridge project, Railway project and projects in Award presentation.

Two of the Hong Kong finalists of the openBIM Awards 2023, Water Supplies Department and China Communications Construction Company Ltd., received Special Mentions – 2023.

In addition to the summit conference, the delegation also arranged separate meetings with important leaders and international solution experts for in-depth exchange on digital transformation experiences. They included:

- (i) buildingSMART international chapter Chairman – Ian Howell, CEO - Clive Billiald and Marketing Director – Aidan Mercer;
- (ii) buildingSMART Regulatory Domain group;
- (iii) Viking Museum contractor - Statsbygg; and
- (iv) Catenda CDE solution.

(b) Takeaways

There are many potential developments and key lessons for Hong Kong from the events as follows:

- (i) Potential to have Hong Kong participants in the new Water Domain;
- (ii) Advancement of Digital Product Passports to exploit the power of openBIM across the asset lifecycle;
- (iii) Advancement of Digital Twin and Common Data Environment application in Hong Kong; and
- (iv) Further promotion of future international openBIM Awards in Hong Kong as openBIM here has started to gain international recognition, with more and more projects have used openBIM. There are five out of 22 finalists (23%) in 2023 comparing to one out of 21 finalists (5%) in 2022.

Way Forward and For Information

- 5.1 The CIC will continue to sustain the connections built during the visit, and to identify appropriate pioneers and case studies for sharing with the local industry to encourage the adoption of innovative technologies.

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(for information)

Annex

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(for information)

- 5.2 An Experience Sharing Session was organised by the HKABAEIMA at the CIC Digital Twin Hub on 1 December 2023 to share the experience gained from the Summit and the latest development of openBIM. Ir Dr. George WONG was invited as one of the guest speakers in the panel discussion session.
- 5.3 The additional information and photos of the visit are enclosed in **Annex A**.
- 5.4 The actual expenditure of the visit is enclosed in **Annex B**.

CIC Secretariat
January 2024

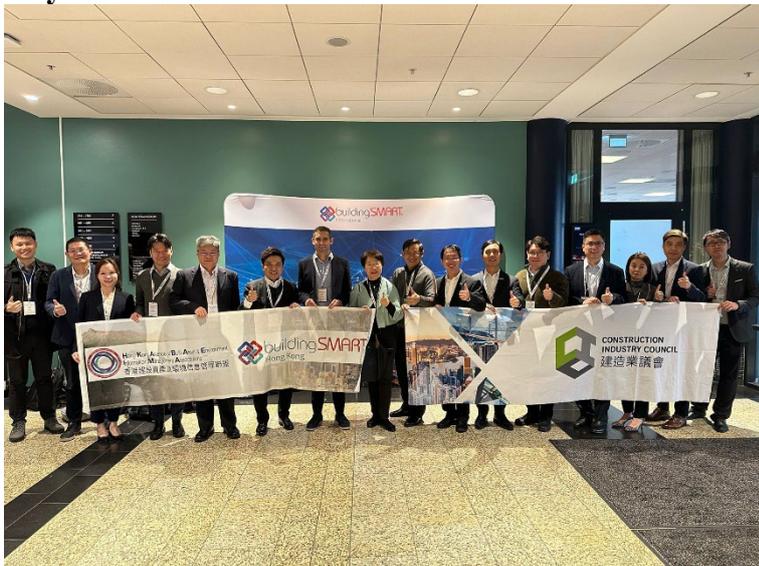
Event photos



First Day of the Summit



Day 2 of the Summit



Day 3 of the Summit



Dinner meeting with buildingSmart Regulatory Domain



Meeting with BSI Chairman and CEO



Visit to Viking Museum Renovation Project



Meeting with Catenda

Programme rundown

Agenda

An overview of the week can be viewed below, along with the detailed agenda for the event.

Follow this link for more information about the [openBIM and Product Passports - Are you Fit for 55?](#) workshop.

Please note the event will take place in Central European Summer Time (CEST), but the times you see on the detailed agenda will have been converted to your device's registered timezone. To the right side, you can filter by session type using tags, and click the dropdown arrows to view full session descriptions.

Monday 18th	Tuesday 19th	Wednesday 20th	Thursday 21st
Opening Plenary	Domain Sessions	Domain Sessions	Closing Plenary
	Workshops and Masterclasses	Workshops and Masterclasses	
	Product Passports	Award Finalists	
		Gala Dinner and Awards	

<https://hopin.com/events/bsslillestrom23/registration>

OpenBIM Awards 2023 finalists

22 finalists of openBIM Awards presented their results on the main stage.
10 of the finalists are from China including five from Hong Kong.



Full finalists list of openBIM Awards 2023

Digital Product Passports

According to buildingSmart, the new Digital Product Passport (DPP) is central to the new Ecodesign for Sustainable Products Regulation (ESPR) and will provide information about the environmental sustainability of every product. It is expected that this information will be easily accessible by scanning technology and should help both consumers and businesses to make better decisions when choosing, operating, maintaining and replacing products.

The development of the DPP is at an early stage with discussion and consultation ongoing around issues such as how to store this data – whether for example to use a database or a complex system – and how to best access the data in use. Machine readability and machine interpretability of that data will be the key to the success of the DPP.



Latest openBIM development and openBIM Ecosystem

The buildingSMART is requested to do more, go faster, grow globally, and increase professionalism. It is moving buildingSmart to the next level – buildingSMART 3.0 including targets:

- IFC 4.3 → ISO Standard
- Strategic Roadmap
- Accelerator Program
- PCert Expansion – Management, Practitioner
- New Standards, - IDS, openCDE, IFC 4.4
- New Services – bSDD, UCM, IFC Validation
- New 3 level Software Certification
- Next Generation – IFC 5
- Evolving business model
- Etc.



Logos for new buildingSMART standards and services



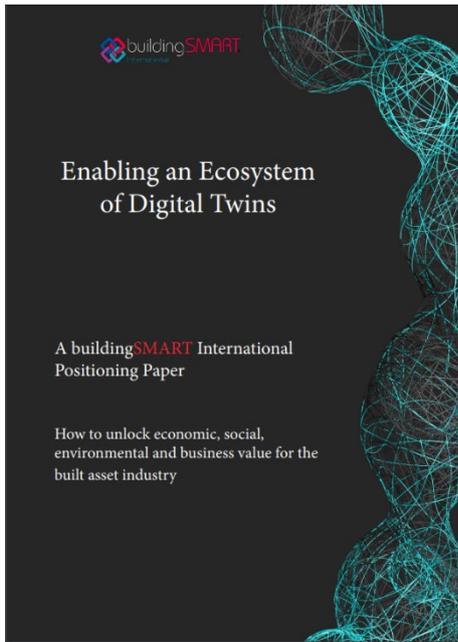
New buildingSMART Ecosystem

Digital Twins Development

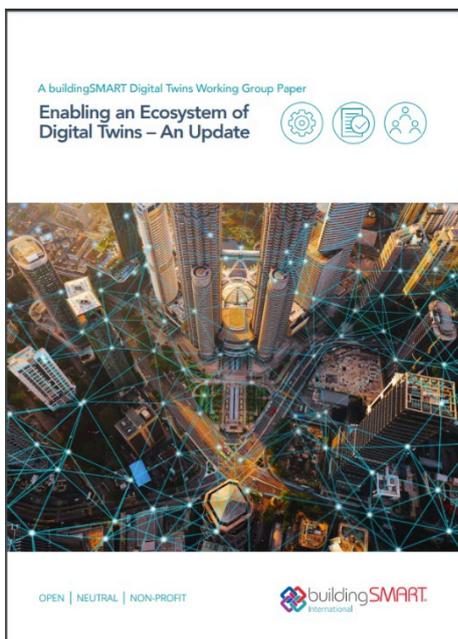


Digital Twins Workshop

The buildingSMART Digital Twins Working Group was formed in 2020 to provide a clear definition of Digital Twins, delivering papers, podcasts, various articles, and blogs.



Digital Twins White Paper published in 2020



Digital Twins White Paper updated in 2023

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(for information)
Annex B

Actual Expenditure

Actual Expenditure	
CIC Representatives	HK\$ 76,337.6
Com-BIM & CD Members	HK\$ 49,560.0
Total	<u>HK\$ 125,897.6</u>