



CIC
BIM
COMPETITION
2025

A competition to promote practical use of BIM through
collaborative and competitive learning approach

CIC BIM Competition 2025

Competition Design Brief

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Version Control

Version	Description	Date
-	First draft for OC comments	December 2024

1. General Brief

Organiser

The CIC BIM Competition 2025, refer as the “Competition”, is organised by the Construction Industry Council (CIC), located at 38/F, COS Centre, 56 Tsun Yip Street, Kwun Tong, Kowloon, Hong Kong.

1.1 Competition Design Brief

This document contains the design brief, competition detailed requirements, submission deliverable requirements, guidance, assessment scoring criteria, awards and prizes, terms and conditions defined for this Competition.

1.2

Use of Information

All the information of this document is meant for the use of this sole Competition only and shall not be used for reference in actual design nor construction project in future, if any, for the particular site.

1.3

Liability of the CIC

The CIC shall not be held liable for any consequences, losses or damages which may arise or result from any misuse by any parties or reliance made on its information for any purposes in future.

1.4

2. Introduction

2.1

Background

The 2-stage ideas Competition aims at continuing to build momentum for Building Information Modelling (BIM) adoption and encourage collaboration. Participants will develop

a NextGen Construction Centre using BIM for a proposed site with design requirements.

2.2

Objective

The Competition’s objective is to **promote practical uses of BIM through collaborative and competitive learning approach** among higher education students in construction-related disciplines.

2.3

Eligibility

This Competition is only eligible to full-time higher education (post-secondary) students, and part-time students who are pursuing top up degrees. Students shall form a team of 3 to 6 members from a minimum of 2 construction-related disciplines. (Refer to Section 9.1 - Registration).

There is no limit to the number of teams from each institution.

Competition Schedule

Date	Activities
22 Jan 2025	Competition Briefing Webinar
2.4 22 Jan 2025	Open for Registration
Feb 2025 – Jun 2025	Online Training Materials
28 Feb 2025	Deadline for Registration
Mar 2025 – Jun 2025	Free BIM Software Licenses
March – April 2025	Visit GeoSpatial Lab and CIC Digital Twin Hub
26 May 2025 (12:00nn)	Submission Deadline for 1 st Round Competition
2 Jun 2025	Judging Panel selects teams for 2 nd Round Competition
6 Jun 2025	2 nd Round Onsite Competition (9:00am-9:00pm) (Finalists being selected to compete onsite within 12 hours)
7 Jun 2025	2 nd Round Onsite Competition AM: Team Presentation to Judge PM: Award Presentation Ceremony

3. Design Brief, Competition Details and Requirements

3.1

Design Competition on NextGen Construction Centre using BIM

(This Design Brief is intended for this Competition only, and shall not be allowed for releasing,

3.2 publishing or use for other intentions.)

Theme and Objective

The theme of this Competition is “**NextGen Construction Centre**” for Higher Education students.

This Competition aims to challenge the participant’s creativity and innovation in the design of a **NextGen Construction Centre for future** using BIM.

The proposed building must embody cutting-edge design principles that reflect innovation and functionality tailored for the construction industry. Architectural elements should blend modern aesthetics with practical utility, showcasing advanced technologies relevant to construction training including robotics and drone applications.

In this Competition, participants may assume that they are submitting a proposed design for the **client (CIC) to develop the NextGen Construction Centre for a proposed site using BIM.**

The Site

The Site selected is currently used by CIC as a training ground located at Dai Wah Street, Tai Po, New Territories, Hong Kong.

3.3 It is assumed that the training ground will be enhanced and the existing building will be converted or demolished for other purposes. Currently, the CIC Tai Po Training Ground offers training and testing for various types of cranes so as to raise crane operators' awareness of safety and the standards of safe operation of cranes.)

3.4 Provisions of Facility

To provide comprehensive teaching and learning facilities that foster the development and enhancement of students' creativity and skills in STEAM education, while encouraging collaboration among students, instructors, and guest speakers:

- **MiC / MiMEP Erection Training Ground:** Hands-on training for assembling modular components with a strong emphasis on safety protocols.
- **Augmented Crane Operation:** Training using AR to enhance crane operation skills, ensuring safe and effective practices.
- **Exhibition Space:** A platform for learning about the latest technologies and showcasing successful applications in construction innovation.
- **Repair & Storage:** Dedicated areas for storing tools, materials, and equipment, along with maintenance and repair facilities for robotic equipment.
- **Robotics Training Area:** A specialized training lab for operating construction robots, facilitating hands-on learning and skill development.
- **Operation of Drones for Inspection / Delivery:** Training focused on using drones for inspection, logistics, and delivery in construction projects.
- **Training Classrooms:** Equipped for theoretical instruction and lectures, providing a conducive environment for learning.
- **Administrative Offices:** Offices for staff, instructors, and administration, ensuring effective management and support for the centre's operations.
- **New Canteen:** Dining services offering healthy meals for staff and trainees, promoting well-being and social interaction.

a. Location Map



The Proposed Site

b. Images of the existing training ground (for reference)



The CIC Tai Po Training Ground offers training and testing for various types of cranes so as to raise crane operators' awareness of safety and the standards of safe operation of cranes.





The Tai Po Training Ground has training sites for crane operation and metal formwork erection for trainees' practice.

Schedule of Accommodation (SOA)

3.4

Space	Functions & Description	Approx. Size (m ²) / Numbers
Indoor Areas		
Reception Area	Welcoming space at entrance for visitors and trainees, including <ul style="list-style-type: none"> • Reception desk & seating • Informational displays and exhibition 	400 m ²
Administrative / Staff Offices	For instructors and administrative personnel (Managers & supporting staff)	3 nos. (each 40 m ²)
Classrooms and Lecture Halls	For small and large groups for teaching and assessment & certification for <ul style="list-style-type: none"> - Practicing project / site / safety management & logistics - Use of personal protective equipment (PPE) to upkeep safety practices on various trades, such as carpentry, plumbing, electrical, masonry, and MiC operation works using power tools / equipment - Drone operation, assembly, disassembly, and maintenance - Breakout rooms / space for group work and discussions 	10 Classrooms (each for 40 trainees) 3 Lecture Halls (each for 100 visitors)
Meeting Rooms	For planning and discussions	4 nos.
Interview Rooms	For interviews and discussions	4 nos.
Robotics Lab	Hands on training with robotic systems Space for various robotics and workstation Ceiling height at least 3.5m	4 nos. (each 200 m ²)
Simulation Rooms with Virtual Reality (VR) Tools,	Using VR / AR to provide immersive & interactive training experiences, such as CAVE that reinforce safety and operational procedure for <ul style="list-style-type: none"> - Tower crane operations and heavy machinery - Safety scenarios and emergency drills 	2 nos. each 400 m ²

Indoor Flight Space and Workshop	Large indoor area with setup to simulate real construction environments for flying smaller drones for site inspections and surveying. Flexible spaces can be reconfigured to suite various training needs.	2 nos.
Maintenance & Repair Areas	Routine maintenance & repairs of robotic equipment	2 nos. each 80m ²
Lounge / Break Area	Space for trainees and staff to relax and socialization	2 nos.
Cafeteria or Snack Area	For meals and refreshments for staff and trainees	2 nos.
Medical / Emergency Room	Rooms to equip with first aid and supplies and emergency equipment	20 m ²
Outdoor Space		
Construction Site Mock-Up	Areas set up to simulate real construction environments for various site operations / inspections / surveying and emergency drills	2 areas
Cranes Installation & Hands-on training	Training on assembly, dismantling and operation of tower cranes	2 areas
Safety Training Facilities	Area dedicated to teaching the use of personal protective equipment (PPE), exoskeletons and safety gear.	2 areas
Training & Practice Use of Site Machinery & Equipment	Open Space for heavy equipment training, such as excavators, site machinery and various robots, etc.	2 areas
Drones for Inspection and Surveying	<ul style="list-style-type: none"> - Designated areas (Outdoor Flight Zone) for controlled drone flight training, on using for inspection, logistics & delivery - Provisions include navigate obstacles for skill development and safety measures - Provide space for assessments and practical exams. 	5000 m ²

Landscape	Planting areas, roof garden, vertical planting, outdoor seating	
Storage		
Equipment Storage	Storage for tools, machinery / equipment	3 nos.
Material Storage	- Space for construction materials and training materials - Organised shelving for easy access - Storage space for building components, modular panels	4 nos.
Refuse Collection & Disposal		
Parking		
Staff & Visitors	Provisions for staff & visitors parking including facilities for disabled	30
Loading & unloading	Allow heavy vehicles for loading & unloading, including refuse collection	4

Reference

1. Small Unmanned Aircraft Approved Training Organisation Requirements Document by Civil Aviation Department, The Government of the Hong Kong Special Administrative Region
2. The Occupational Safety & Health Administration (OSHA) Standards & regulations for workplace safety, including the use of robotics and robotic training environment
- 3.5 Building Regulations - Governs the design and construction of buildings, ensuring that all construction activities comply with safety standards, fire prevention requirements and structural integrity.

Design Proposal

Participants are required to enrich the current building or propose a new building with creative design that reflects its theme and meets the objective of the Centre. The building should have a vibrant and attractive aesthetic that creates a stimulating and inspiring learning environment for both students / teachers and visitors.

Participants could brainstorm ideas on how to generate innovative concepts aimed at revitalizing, enriching, or rejuvenating the current state of the building and facilitating a low-altitude economy. Alternatively, they could propose a new building design that elevates its functionality, aesthetics, and sustainability to new heights.

It is possible to provide adaptable and flexible layouts that allow for different events / activities and configurations of spaces for different modes of teaching, learning and sharing, such as collaborative, group project-based, team coaching and individual task.

The proposed building should be able to integrate with the surrounding urban context in terms of facilitating a low-altitude economy and future drone operations.

The Challenges and Requirements

Participants are required to submit innovative proposal to be generated from use of BIM tools and related tools throughout the development process. The proposal can consider demonstrating the following:

3.6

3.6.3 Planning & Design Solution

- Plan and design with people-technology objective and promote a sense of learning experience with aims to strengthen social interaction amongst AECO stakeholders. The overall design should respect predominant local surroundings, and give a sense of place with innovative ideas.
- Provide an overall design that would be economically viable and efficient to build, utilising CSDI and taking advantage of 3D printing.
- Provide design of modules and use of materials.
- Document to include the design development plan using BIM and related technologies, BIM workflow, and project milestones from the beginning throughout the design process.

Integration of Building & the Open Space cum Activities

In response to the local context of tall buildings, streetscapes and circulation patterns (pedestrian & vehicular) in the vicinity, the proposed design needs to strike a balance between building structures and open space with the following considerations:

- Building form and placing structures for activities, recreation and landscaping;
- Provide a unique character and identify of the place that meet the intention of the **NextGen Construction Centre** in CIC Tai Po Training Ground, enhance the spatial qualities of the surrounding environment and deliver the message of Smart Construction and sustainable built environment.

The selections of planting species such as trees and shrubs are optional in this submission.

3.6.3 Smart Site Safety System (4S)

In order to uplift site safety, the Development Bureau (DEVB) has been committed to driving a wider adoption of 4S in the construction industry for providing a safe working environment for site personnel. Reducing accidents and fatalities at critical jobsites, plants, and other workplaces through smart safety monitoring systems using AI, IoT, edge devices, and video analytics (computer vision) technologies should be considered during the design and construction stages.

3.6.4 Passive Sustainable Design

Below is a reference of measures in addressing passive sustainable design. Analysis and illustration utilising BIM model for any proposal passive sustainable design elements should be demonstrated:

- Building massing design
- Building orientation and building openings
- Basic selection of building materials
- Application of building elements like sun shading devices, wind catchers, etc.
- Other means of passive sustainable design (not exhaustive)

3.6.5 Modular Integrated Construction (MiC)

MiC is an innovative construction method. By adopting the concept of “factory assembly followed by on-site installation”, MiC helps to ease some of the current challenges faced by the local construction industry. In this method, free-standing integrated modules (completed with finishes, fixtures and fittings) are manufactured and assembled in a factory. By transferring on-site construction processes to a controlled factory environment, buildings can be substantially completed off-site. The adverse impacts of weather conditions, scarce labour resources and site constraints can all be substantially reduced. MiC provides a great degree of production quality control, and can improve construction productivity, safety and sustainability. MiC units can be adopted for different areas of the development, such as classrooms, guest house facilities, and recreational facilities. MiC units shall include MiMEP.

Approach and use of MiC and MiMEP

Designs by choosing designated areas, such as a guest room and an exhibition booth, and develop details in the BIM models showing the installation works of mechanical, electrical, plumbing and lighting fixtures with necessary supporting components including hangers, firestops, etc. Participants can refer trade catalogues available in the market, and illustrate how they could apply to achieve flexibility, modularity and prefabrication in design and build optimisation using design tools. Briefing and relevant training on how to use available design tools will be provided by the CIC.

Buildability and Logistics Planning with Use of DfMA, MiC & MiMEP

Given the benefits of using DfMA / MiC / MiMEP approach, participants are recommended to adopt the technologies for building components (kit-of-parts or modules) in the proposed design. The study and application in using the approach can include the study of buildability and transportation logistics:

- 1) 4D modelling: to demonstrate buildability and transportation logistics of DfMA / MiC / MiMEP design, through the use of BIM construction simulation.

- 2) Logistics planning: to identify critical junctions during the process of modules transportation from the factory to the site, through routing study/investigation.

3.6.6 Embodied carbon calculation and optimisation using the CIC CAT

In support of the Government's Climate Action Plan 2050, which set out the vision of "Zero-carbon Emissions•Liveable City•Sustainable Development", and outlined the strategies and targets for combating climate change and achieving carbon neutrality, sustainable design and construction are critical. Participants are required to evaluate embodied carbon in their design using the CIC CAT, calculation and design optimisation on **(i) Concrete, (ii) Structure Steel and (iii) Reinforcement Bar, if any**, are required. Briefing and training on how to use the CIC CAT will be provided by the CIC.

Each participating team will have to create a project account on the CIC CAT website, and input relevant data generated from BIM models into the CIC CAT website for calculating embodied carbon, and obtain the results and form part of this Competition submission. Participants are required to prove their designs are optimised by comparing the initial designs and the final designs on the use of **(i) Concrete, (ii) Structural Steel and (iii) Reinforcement Bar, if any**. For simplicity in this Competition, concrete from different construction methods (e.g. Façade / In-situ Concrete / Precast Concrete, if any) may be grouped as 'Concrete' for calculations on the CIC CAT; Prefabricated Structural Steel and Structural Steel may be grouped as 'Structural Steel'; Reinforcement Bar and Prefabricated Reinforcement Bar may be grouped as 'Reinforcement Bar' for calculations on the CIC CAT.

CIC CAT website and login: <https://cat.cic.hk/>

Self-learning tutorial and user guide: <https://cat.cic.hk/Landing/HowToUse>

3.6.7 Innovative Design through Collaboration

Collaborative design is a process that team members bring together different ideas and work together for a common goal to achieve the intended purpose. Innovative design through collaboration requires participants to demonstrate how they collaborate to design with the adoption of BIM tools and process. The participants shall generate the design through maximising usage of BIM and its collaboration platform. The adoption of CDE for information management using BIM is required as a collaboration platform to demonstrate good project collaboration and coordination, including documentation for tracking design, construction activities and archiving information for next projects.

3.6.8 Creative BIM Uses

In this Competition, the CIC aims at promoting BIM as an effective design, collaboration and integrated review tool in achieving better design quality. Uses of BIM are listed in the CIC BIM Standards - General (2021) as follows:

- 1) Design authoring of core disciplines/ building systems

- Possible use of generative design in BIM
- Explore design options and optimise design resolution
- 2) Design reviews
- 3) Existing conditions modelling
- 4) Sustainability evaluation and Site analysis
 - BIM-based study on environmental impacts to the site and building design, and passive sustainable design in addressing such impacts
- 5) 3D / Spatial coordination
- 6) Space layout and programming
- 7) Engineering analysis defined as advanced BIM use
- 8) Digital Fabrication
 - Design for Manufacture and Assembly (DfMA)
 - Modular Integration Construction (MiC)
 - Multi-trade integrated MEP (MiMEP)
- 9) BEP - Check Section 5.1 for details
- 10) CDE for information management using BIM

Participants are required to adopt any other BIM Standards and Guidelines published from the CIC and are encouraged to make best use of the BIM Objects available from the CIC's BIM Portal (https://www.bim.cic.hk/en/resources/bim_objects) whenever possible.

3.6.9 Use of BIM Software and CDE for information management using BIM

Participants are required to use a minimum of two (2) BIM authoring (modelling) software (e.g. Architectural model using software A meanwhile Structural model using software B; Architectural model using software C while MEP model using software D). Participants are encouraged to explore Mainland & Local solutions and apply those they consider appropriate for their design and collaboration. When sharing the BIM models, participants need to consider the following challenges, like:

- 1) BIM model and data compatibility and interoperability between BIM software
- 2) BIM Model sharing method
- 3) Data assess and security control
- 4) Revision and version control

In the submission files such as the presentation slides, poster and video, participants are required to:

- 1) Provide a list of the software (BIM, GIS and sustainable design analysis tools, with their version) and CDE used in this Competition. Utilising Mainland or Local BIM software would be an advantage.**

- 2) Prove the uses of the software (BIM, GIS and sustainable design analysis tools) and CDE by capturing the design development, design coordination, energy analysis, and collaboration, etc.) within the relevant software user interface.
- 3) Prove the uses of CDE by showing the adoption of relevant standards and workflow as specified in the CIC BIM Standards - General (2021), which aligns with ISO19650's Information Management principles, workflows and requirements.
- 4) Prove the uses of sustainable design analysis tools by showing the iteration process of computational design, engineering, analysis and optimisation.

3.6.10 openBIM Approach

Participants may consider openBIM approach for cross BIM software collaboration. Reference can be made to the Industry Foundation Classes (.ifc) data. ifc is a platform neutral, open file format specification that is not controlled by a single BIM software. It is an object-based file format with a data model developed by buildingSMART International to facilitate interoperability in Architecture, Engineering, Construction, Operations and Owner (AECOO) industry, and is a commonly used collaboration format in BIM based projects.

3.6.11 Use of spatial data available at Hong Kong GeoData Store or Common Spatial Data Infrastructure (CSDI)

Participants are encouraged to make use of spatial data from the Hong Kong GeoData Store or CSDI for facilitating their design planning and developments.

4. Reference

- 1) Development Bureau's Technical Circular (Works) No. 2/2020: MiC
<https://www.devb.gov.hk/filemanager/technicalcirculars/en/upload/375/1/C-2020-02-01.pdf>
- 2) Buildings Department's Practice Note for Authorised Persons (ADV-36): MiC
<https://www.bd.gov.hk/doc/en/resources/codes-and-references/practice-notes-and-circular-letters/pnap/ADV/ADV036.pdf>
- 3) Buildings Department's Pre-accepted MiC Systems / Components
https://www.bd.gov.hk/en/resources/codes-and-references/modular-integrated-construction/mic_acceptedList.html
- 4) General information on DfMA and MiC issued by the CIC
<http://www.cic.hk/eng/main/mic/>
http://www.cic.hk/eng/main/dfma_alliance/
- 5) Reference Material on Adopting DfMA for MEP Works (A Concise Guide) (August 2022)
[https://www.cic.hk/files/page/51/Reference%20Material%20on%20Adopting%20DfMA%20for%20MEP%20Works%20\(A%20Concise%20Guide\).pdf](https://www.cic.hk/files/page/51/Reference%20Material%20on%20Adopting%20DfMA%20for%20MEP%20Works%20(A%20Concise%20Guide).pdf)
- 6) Reference Material on Use of Digital Technologies for QA/QC of MiC Modules in MiC Factories (June 2022)
[https://www.cic.hk/files/page/51/20220616%20Use%20of%20Digital%20Technologies%20for%20QAQC%20of%20MiC%20Modules%20\(final\).pdf](https://www.cic.hk/files/page/51/20220616%20Use%20of%20Digital%20Technologies%20for%20QAQC%20of%20MiC%20Modules%20(final).pdf)
- 7) Reference Materials - Logistics and Transport for MiC Projects (December 2021)
<https://www.cic.hk/files/page/51/202111214%20Logistics%20%26%20Transport%20for%20MiC%20Projects.pdf>
- 8) Adopting MiMEP - From the Government's Perspective issued by the ArchSD:
https://mic.cic.hk/files/Education/5/File/Adopting_MiMEP_%E2%80%93_From_the_Government%E2%80%99s_Perspective.pdf
- 9) Common Spatial Data Infrastructure (CSDI)
<https://csdi.gov.hk/>
- 10) Hong Kong GeoData Store (alpha version of CSDI Portal)
<https://geodata.gov.hk/gs/>
- 11) Geospatial Lab
<https://csdigeolab.gov.hk/en/>
- 12) CIC BIM Standards - General (Version 2.1 - 2021)
https://www.bim.cic.hk/en/resources/publications_detail/100
- 13) CIC BIM Standards Architecture and Structural Engineering (Version 2.1 - 2021)
https://www.bim.cic.hk/en/resources/publications_detail/115
- 14) CIC BIM Standards for Mechanical, Electrical and Plumbing (Version 2 - 2021)
https://www.bim.cic.hk/en/resources/publications_detail/110
- 15) CIC BIM Standards for Underground Utilities (Version 2 - 2021)
https://www.bim.cic.hk/en/resources/publications_detail/111
- 16) CIC Production of BIM Object Guide - General Requirements (2021)
https://www.bim.cic.hk/en/resources/publications_detail/112
- 17) CIC BIM Dictionary (2021)
https://www.bim.cic.hk/en/resources/publications_detail/113
- 18) Official website of ZCP
<https://zcp.cic.hk/>
- 19) The knowledge of ZCBs can be found as follows:

- ZCB Journal – Vol 1 January 2014 The Making of the ZCB
- <http://zcp.cic.hk/eng/story-of-zcb>
- <http://zcp.cic.hk/eng/how-the-building-works>
- <http://zcp.cic.hk/eng/active-systems>

5. Submission and Deliverable Requirements

Round 1 - Online Submission and Requirements

All submission files shall be archived in CDE and are readily available for retrieval by the CIC and the judging panel for assessments.

5.1 1) Presentation slides

The slides shall document and present the following:

- Design concept and approach to site planning and building design issues.
- Compliance of spatial requirements - SOA with justification by the use of automatic area calculation in BIM software. Area schedules comparing between the proposed design and the spatial requirements - SOA.
- Creative BIM uses.
- Prove sustainable designs and design optimisation by showing the iteration process in software.
- Illustration of the use of Modular Integration Construction (MiC), Design for Manufacture & Assembly (DfMA), Multi-trade Integrated MEP (MiMEP). **(Optional)**
- Quantity schedules of major building systems and components including but not limited to MiC units generated from BIM models. **(Optional)**
- Workflow and deliverables of adopting CDE for information management using BIM as a collaboration platform throughout the development process. **(Optional)**
- Passive sustainable design being adopted, and justification through daylight study, solar shadow study, (optional: energy model and analysis, natural ventilation simulation as advanced BIM use), etc. **(Optional)**
- Prove embodied carbon calculation and optimisation by comparing the initial design and the final design using the CIC CAT. **(Optional)**
- Information of team organisation, division of work, list of BIM software used (with version) & platform for collaboration, diagram to illustrate the data transfer among various BIM software , etc.
- Maximum 20 pages in English.
- PowerPoint slides in .ppt or .pptx formats. Please refer to the Template provided (CIC_BIM_Competition_2025_Submission_Slide_Template.pptx).

2) Posters

- The posters should identify the key points in design and how BIM is applied in design process collaboratively to achieve design challenge.

- 4 nos. of A1 size and portrait orientation layout in English.
- Minimum resolution 200 dpi.
- Electronic format in .jpg or .png.
- Please refer to the Template provided (Document: CIC_BIM_Compensation_2025_Submission_Poster_Template.pptx).

3) Video

- To demonstrate design concept and development, BIM implementation in design visualisation (walk-through with material indication), team collaboration, BIM coordination process, creative BIM uses, MiC, DfMA and MiMEP, passive sustainable design, design analysis, simulation and optimisation, etc.
- Maximum 2.5 minutes.
- Electronic format of video in .avi or .mpeg format, with annotation/sub-title and music, and voice-over (optional).

4) BIM models (Information model)

- Modularity of DfMA, MiC, MiMEP approaches.
- BIM models shall include all geometries of the design, relevant information embedded in building elements, different views, images, area schedules comparing between the proposed design and the spatial requirements - SOA, quantity schedules of major building systems and components including but not limited to MiC units.
- All BIM models in both native file format and open format (.ifc) shall be collaborated in CDE.

5) 3D printing model (optional)

To submit a 3D printing model that effectively showcases the planning and design of the centre. The 3D model (full or part of the design) will serve as a representation of the proposed design, allowing judges to visualize the layout, structure, and functionality of the centre. It aims to enhance understanding and facilitate discussions regarding design elements and spatial relationships.

6) Scripting (optional)

- To showcase computational design, engineering, analysis and optimisation, which will be defined as one of the advanced BIM use.
- A verifiable script in Dynamo, Grasshopper, Generative Component or other computer language scripting applied.

Round 2 - Onsite Competition Format and Requirements

- 1) To incorporate CIC's design changes in onsite competition, such design changes requirements and details will be announced on the day of Round 2 competition.
 - 2) Onsite update of models and production of required output (including presentation slides) in 12 hours (9:00 am to 9:00 pm).
 - 5.2 3) A max. 25 pages PowerPoint slides in English in .ppt or .pptx format (an update on top of those to be submitted in Round 1 showing the changes for Round 2).
 - 4) 4 nos. of A1 Posters in English with at least 200dpi in .jpg or .png, layout in portrait format (an update on top of those to be submitted in Round 1).
 - 5) A max. 2.5 minutes video to demonstrate design concept and development, BIM implementation in design visualisation (walk-through with material indication), team collaboration, BIM coordination process, creative BIM uses, MiC, DfMA and MiMEP, passive sustainable design, design analysis, simulation and optimisation, etc. (an update on top of those to be submitted in Round 1). Video in .avi or .mpeg format, with annotation/sub-title and music, and voice-over (optional).
 - 6) BIM models shall include all geometries of the design, relevant information embedded in building elements, different views, images, area schedules comparing between the proposed design and the spatial requirements - SOA, quantity schedules of major building systems and components including but not limited to MiC units (an update on top of those to be submitted in Round 1). All BIM models in both native file format and open format (.ifc) shall be collaborated in CDE.
 - 7) A pre-appointment BEP (an update on top of those to be submitted in Round 1).
 - 8) A verifiable script in Dynamo, Grasshopper, Generative Component or other computer language scripting applied, if any, in this Competition to showcase computational design, engineering, analysis and optimisation (an update on top of those to be submitted in Round 1).
 - 9) Presentation sequence will be based on drawing lots on the spot.
 - 10) Presentation in 15 minutes and followed with a Q&A session hosted by the judging panel for 5 minutes.
- 5.3

Online Submissions

- 1) Registration will be opened until 28 February 2025 (deadline for registration), unless waiver is granted by the CIC. Successful registration will be notified via email by the CIC.
- 2) For submission, Participant is required to self-create a Google account and store the requested deliverables (refer to Section 5.1) in the Google Drive, and email the shared Google Drive link by 26 May 2025 (12:00nn HK time) to bim@cic.hk

6. Guidance and Support

Competition Briefing Webinar

- Date: 22 Jan 2025

Supporting BIM Partners

- 6.1
 - ACID – IM-CDE
 - Autodesk – BIM 360 and Dynamo
 - Bentley – ProjectWise, OpenRoads Designer, OpenBuildings Designer and Synchro
 - 6.2
 - BIMSONS – Prota Software
 - Esri – ArcGIS
 - Florida - Enscape and Vantage
 - Geospatial Lab
 - Glodon
 - IES – IESVE
 - Kalloc – Fuzor
 - Oakley – BIM eLearn
 - Transcendence – CDE - Teamwork Master
 - YJK Building Software
 - White Frog
 - and more...
- Free software licenses will only be arranged for participating teams

7. Assessment Scoring Criteria

Scoring Criteria	%
1st Round	
Use of Information and Compliance of Client's Requirements	20
Computational Design, Engineering, Analysis and Optimisation	30
Use of Local & China BIM software, 3D printing (components/ prototype/ planning, etc.)	10
Creative BIM uses (OpenBIM, CDE, AI, 4S, Digital Twin, etc.)	25
Quality of Presentation Materials (Video and Poster)	15
TOTAL	100
2nd Round (On-site competition)	
1st round score	20
Compliance to Design Information, Flexibility & Responsiveness	30
Collaboration & Teamwork	20
Communications and Presentation Skills	20
Creativity and Originality, Creative BIM uses	10
TOTAL	100

8. Awards and Prizes

Prizes	
First Prize	Plaque + E-certificate A Chance to Participate in an Overseas Event
Second Prize	Plaque + E-certificate
Third Prize	Plaque + E-certificate
Max. 7 Merits	Plaque + E-certificate
All	E-Certificate of Participation

9. Terms and Conditions

By participating in this Competition, each team shall make a registration to participate in this Competition, refer as the “Participating Team”, and each Team Member unconditionally accepts and agrees to comply with and abide by the Terms and Conditions in the Design Brief and the decisions of the CIC, which shall be final and binding in all respects.

Registration

- 1) No registration fee is required. The registrants are solely responsible for their own expenses in preparing all submissions and deliverables.
- 9.1 2) Eligibility: The participants shall be studying a full-time undergraduate or postgraduate program in a registered higher education institution in Hong Kong, or pursuing a part-time top up degree, as of the 28 February 2025. For overseas students, only of those who hold a valid Hong Kong Identity card is eligible for the participation. There is no limit to the number of participating team to register this Competition.
- 3) Every participant is restricted to joining 1 team only for this Competition.
- 4) Each Participating Team shall have 3 to 6 members (including the team leader), with students from minimum 2 construction-related disciplines (including, but not limited to, Architecture, Civil/Geotechnical Engineering, Building Services Engineering, Environmental Engineering, Surveying, Construction, Building and Real Estate, Urban Planning and other construction-related disciplines). [*NOTE: For those who may not be able to form a multi-disciplines team, they may also register before the due date, and the CIC will assist them to form teams if necessary.]
- 5) The staff of the CIC and their families are not allowed to participate in this Competition.
- 6) Each Participating Team is encouraged to attend the briefing, online training and hands-on training webinars, if any, organised by the CIC or its representative or supporting organisations.
- 7) The participants are required to update the CIC for replacement or update on members and to submit the new name list latest by the deadline for registration.
- 8) Only the registered team members who completed the full submissions to this Competition are qualified to receive the electronic certificates of participation.
- 9) The CIC has the final decision on the eligibility of the participants and reserves the right to reject any participant who does not meet the eligibility criteria.
- 10) The CIC reserves the final decision on this Competition and has the right to cancel and/or modify any terms and conditions at any time in this Competition without prior notice.
- 11) The CIC reserves the final decision on this Competition and has the right to cancel or change the awards and other arrangements for this Competition without prior notice.
- 12) The participants shall bear full legal and related responsibilities arising from any possible breach of intellectual property rights in respect of their registration and

competition, and shall indemnify the CIC and other concerned parties against any claims and liabilities arising from any such breach.

- 13) All participants who submit registration to this Competition, agree to assign the intellectual property rights of their designs to the CIC on promotion, exhibition, demonstration and training purposes both locally and internationally.
- 14) If a participant is found to have disposed to a third party, such as by assignment, transfer or provision as security, or is making registration procedures, etc., for all or any part of the intellectual property rights or any other rights concerning the submitted registration after the submission, the submission will be made invalid.
- 15) All works must be original works of the participant. The registration will not be shown in other competitions or published. Participants are required to indicate that they are not infringing upon the rights (including design rights and copyright) of the submission.
- 16) Any teams are subject to investigations regarding originality and eligibility for Intellectual Property Rights, design rights or copyright registration. If they do not comply with the requirements, the CIC has the sole discretion to disqualify and forfeit the prizes involved without any liability to the selected participants or any other persons, and other Participating Team may be selected as the winner.
- 17) Participants are required to agree to the CIC's publication of their name and authorise the CIC to collect, process and use their personal data for the event's liaison and promotion. All materials are kept strictly confidential except for the above purposes.
- 18) If any participant provides incorrect, incomplete or inaccurate information, or violates any registration terms or conditions of this Competition, the CIC has the final decision to cancel such participant's qualifications and reserves the right to withdraw the relevant awards.

9.2

Pre-Competition

- 1) The Participating Teams shall complete this Competition at their own premises for the first round.
- 2) For the second round, the Participating Teams shall bring along their own computers and software, they are advised to take all necessary precautions to ensure that the competition areas, equipment and machines are safe for use by the team members. The CIC shall not be held responsible for any accidents, damages or mishap that may happen to the participants during the competition.
- 3) Participants may use any BIM authoring software or tools. It is recommended that the BIM authoring software or tools and other supporting analysis / simulation software or graphic and presentation tools for this Competition to be openBIM compliant including the support of import and export files in Industry Foundation Classes (.ifc) format.
- 4) Participants will be notified through email if any changes incurred on submission or presentation time and venue.

- 5) The event will be cancelled if a No. 8 typhoon signal or above is hoisted or the black rainstorm warning signal is raised three hours prior to the original start time of the event. The event will be then re-scheduled to the next available date.

During Competition

9.3

- 1) All participants must comply strictly with all terms and conditions of this Competition defined by the CIC. The Judges and the CIC reserve the rights to disqualify any participant if he/she suspects, in its sole discretion, that the participant did not follow any terms and conditions.
- 2) Failure by the participant to comply with instructions given by the Judges or the CIC, or participants caught in cheating and not producing genuine works, may also incur loss of score. Continuous violation of any terms and conditions, may result in suspension or termination from this Competition.
- 3) The participant shall report to the CIC / Judges as soon as possible, if any grievances. Appeals after this Competition will not be entertained. The Judges' decision shall be final.
- 4) Any participants from the shortlisted team must inform the CIC as early as practicable if he/she could not participate on the day of the second round competition.
- 5) No replacement of any team member is allowed due to whatever reasons. The same full team shall participate the second round competition for the best result, however, minimum one member of a team can still proceed the second round competition.
- 6) The participants shall bring along their own computers with all necessary software and tools with legal licenses to the competition venue for the completion of the competition.
- 7) Any illegal stuffs such as un-authorized software licenses are prohibited. The competition venue with power supplies and power extension cord will be provided by the CIC. Internet connection will not be provided by the CIC for the second round competition. The participants shall arrange and provide their own internet connection if there is a need.

9.4

Assessment and Judging

- 1) The submissions are assessed based on the assessment scoring criteria.
- 2) The results of this Competition will be decided by judging panel and are final. There is no mechanism to appeal or object.
- 3) The judging panel will be composed of representatives of the CIC and the industry BIM experts.
- 4) The panel of Judges shall abstain from evaluating a team where there may be conflict of interest issues. In such a case, the chief judge to be elected by the panel shall make the final decision.
- 5) Assessment shall not be done in the presence of the participants.

- 6) If any stated prizes are unavailable, the CIC reserves the right to substitute one or more items, in its sole and absolute discretion. No prize is exchangeable, transferable, or redeemable for cash.

Post-Competition

9.5

- 1) All submissions will not be returned, and the participant agrees to authorise the CIC to modify, use, reproduce, publicly display or display the registration on the Internet or other media for promotional purposes without prior obtaining the participant's agreement or pay royalties to them.
- 2) The CIC shall retain and hold exclusive rights for promotion, exhibition, demonstration and training purposes both locally and internationally. The exclusive rights include Intellectual Property rights, Design rights, Patent, Trademark, Copyrights, media rights, overall deliverables, including but not limited to the BIM models, posters, reports, multimedia, scripts, materials and projects created and submitted for this Competition.
- 3) All decisions made by the CIC and Judges are final. No correspondence or appeals shall be entertained.
- 4) The top three prize winners and the merit winners may be invited for joining in CIC's coming events and activities.

~ THE END ~